

# Introduction and Overview of Crime and Criminology

In 1996, Iraqi refugees Majed Al-Timimy, 28, and Latif Al-Husani, 34, married the daughters, aged 13 and 14, of a fellow Iraqi refugee in Lincoln, Nebraska. The marriages took place according to Muslim custom and everything seemed to be going well until one of the girls ran away and the concerned father and her husband reported it to the police. It was at this point that American and Iraqi norms of legality and morality clashed head on. Under Nebraska law, people under 17 years old cannot marry, so both grooms and the fathers and mothers of the girls were arrested and charged with a variety of crimes, from child endangerment to rape.

According to an Iraqi woman interviewed by the police (herself married at 12 in Iraq) both girls were excited and happy about the wedding. The Iraqi community was shocked that these men faced up to 50 years in prison for their actions, as would have been earlier generations of Americans who were legally permitted to marry girls of this age. The men were sentenced to four to six years in prison and paroled in 2000 with conditions that they have no contact with their "wives." Thus, something that is legally and morally permissible in one culture can be severely punished in another. Did the actions of these men constitute child sex abuse or simply evidence unremarkable marital sex? Which culture is right? Can we really ask such a question? Is Iraqi culture "more right" than American culture, given that at one time marrying girls of that age was permissible here, too? Most important, if what constitutes a crime is relative to time and place, how can criminologists hope to study crime scientifically?

## What Is Criminology?

**Criminology** is an interdisciplinary science that gathers and analyzes data on various aspects of crime and criminal behavior. As with all scientific disciplines, its goal is to understand its subject matter and to determine how that understanding can benefit humankind. In pursuit of this understanding, criminology asks questions, such as the following:

- Why do crime rates vary from time to time and from culture to culture?
- Why are some individuals more prone to committing crime than others?
- Why do crime rates vary across different ages, genders, and racial/ethnic groups?

- Why are some harmful acts criminalized and others are not?
- What can we do to prevent crime?

By a *scientific* study of crime and criminal behavior we mean that criminologists use the scientific method to try to answer the questions they ask rather than simply philosophizing about them. The scientific method is a tool for winnowing truth from error by demanding evidence for one's conclusions. Evidence is obtained by formulating hypotheses derived from theory that are rigorously tested with data. How this is accomplished is addressed later in this section, after we discuss the nature of crime.

## What Is Crime?

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The term *criminal* can and has been applied to many types of behavior, some of which nearly all of us have been guilty of at some time in our lives. We can all think of acts that we feel *ought* to be criminal, but are not, or acts that should not be criminal, but are. The list of acts that someone or another—at different times and in different places—may consider to be crimes is very long, and only a few of those acts are crimes in the United States today. Despite these difficulties, we need a definition of crime in order to proceed. An often-quoted definition is that of Paul Tappan (1947), who defined **crime** as “an intentional act in violation of the criminal law committed without defense or excuse, and penalized by the state” (p. 100). A crime is thus an *act* in violation of a *criminal law* for which a *punishment* is prescribed; the person committing it must have *intended* to do so and must have done so without legally acceptable *defense* or *justification*.

Tappan's definition is strictly a legal one that reminds us that the state, and only the state, has the power to define crime. Hypothetically, a society could eradicate crime tomorrow simply by rescinding all of its criminal statutes. Of course, this would not eliminate the behavior specified by the laws; in fact, the behavior would doubtless increase because the behavior could no longer be officially punished. While it is absurd to think that any society would try to solve its crime problem by eliminating its criminal statutes, legislative bodies are continually revising, adding to, and deleting from their criminal statutes.

## Crime as a Moving Target

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Somewhere, and at some time, every vice is a virtue. There are numerous examples, such as the vignette at the beginning of this chapter, of acts that are viewed as crimes in one country, yet the same behavior is tolerated and even accepted in another. Laws also vary within the same culture from time to time, as well as across different cultures. Until the Harrison Narcotics Act of 1914, there were few legal restrictions in the United States on the sale, possession, or use of most drugs, including heroine, and cocaine. Under the Harrison Act, many drugs were deemed controlled substances, their possession became a crime, and a brand-new class of criminals was created overnight.

Crimes pass out of existence also, even acts that had been considered crimes for centuries. Until the United States Supreme Court invalidated sodomy (oral or anal sex) statutes in *Lawrence v. Texas* (2003), sodomy was legally punishable in many states. Likewise, burning the American flag had serious legal consequences until 1989, when the Supreme Court invalidated anti-flag burning statutes as unconstitutional in *Texas v. Johnson* (1989). What constitutes a crime, then, can be defined into and out of existence by the courts or by legislators. As long as human societies remain diverse and dynamic, there will always be a moving target of activities with the potential for nomination as crimes, as well as illegal activities nominated for decriminalization.

If what constitutes crime differs across time and place, how can criminologists hope to agree on a scientific explanation for crime and criminal behavior? Science is about making universal statements about stable or

homogeneous phenomena. Atoms, the gas laws, the laws of thermodynamics, photosynthesis, and so on are not defined or evaluated differently by scientists around the globe according to local customs or ideological preferences. But, the phenomenon we call “crime keeps moving around, and because it does some criminologists have declared it impossible to generalize about what is and is not ‘real’ crime” (Hawkins, 1995, p. 41).

What criminologists are saying is that crime is a socially constructed phenomenon that lacks any “real” objective essence and is defined into existence rather than discovered. At one level, of course, everything is socially constructed: Nature does not reveal herself to us sorted into pre-labeled packages; humans must do it for her. *Social construction* means nothing more than that humans have perceived a phenomenon, named it, and categorized it according to some classificatory rule that makes note of the similarities and differences among the things being classified. Most classification schemes are not arbitrary; if they were, we would not be able to make sense of anything. Categories have empirically meaningful referents and are used to impose order on the diversity of human experience, although arguments exist about just how coherent that order is.

## Crime as a Subcategory of Social Harms

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So, what can we say about crime? How can we conceive of it in ways that at least most people would agree are coherent and correspond with their view of reality? Harmful acts can be placed on a continuum in terms of the seriousness of the harm involved. The continuum ranges from simple things like smoking to very serious things like murder; thus, crime is a subcategory of all harmful acts. Some harmful acts, such as smoking tobacco and drinking to excess, are not considered anyone’s business other than the actor’s if they take place in private (or even in public, if the person indulging in those things creates no annoyance to others).

Socially (as opposed to private) harmful acts are deemed to be in need of regulation (e.g., health standards, air pollution), but not by the criminal law except under exceptional circumstance. Private wrongs (such as someone renegeing on a contract) are socially harmful, but not harmful enough to require the heavy hand of the criminal law. Such wrongs are regulated by the civil law, in which the wronged party (the plaintiff) rather than the state initiates legal action, and the defendant does not go to jail if the plaintiff wins.

Further along the continuum, we find a subcategory of harmful acts considered so socially harmful that they come under the authority of the criminal justice system. Even here, however, we are still confronted with the problem of human judgment in determining what goes into this subcategory. But, this is true all along the line; smoking was once actually considered rather healthy, and air pollution and unhealthy conditions were simply facts of life about which nothing could be done. Categorization always requires a series of human judgments, but that does not render the categorizations arbitrary.

The **harm** wrought by criminal activity exacts a huge financial and emotional price. The emotional pain and suffering borne by crime victims is obviously impossible to quantify, but many estimates of the financial harm are available. Most estimates focus on the costs of running the criminal justice system, which includes the salaries and benefits of personnel and the maintenance costs of buildings (offices, jails, prisons, police stations) and equipment (vehicles, weapons, uniforms, etc.). Added to these costs are the costs associated with each crime (the average cost per incident multiplied by the number of incidents reported to the police). All these costs combined are estimates of the *direct* costs of crime.

The *indirect* costs of crime must also be considered as part of the burden. These costs include all manner of surveillance and security devices, protective devices (guns, alarms, security guards), insurance costs, medical services, and the productivity and taxes not collected from incarcerated individuals. Economist David Anderson (1999) lists a cascade of direct and indirect costs of crime and concludes that the aggregate burden of crime in the United States (in 1997 dollars) is about \$1,102 *billion*, or a per capita burden of \$4,118. Thus, crime places a huge financial burden on everyone’s shoulders, as well as a deep psychological burden on its specific victims.

## Beyond Social Construction: The Stationary Core Crimes

Most people would agree that an act that is universally condemned is not arbitrarily categorized and is seriously harmful. That is, there is a core of offenses defined as wrong at almost all times and in almost all cultures. Some of the strongest evidence in support of the stationary core perspective comes from the International Criminal Police Organization (INTERPOL) (1992), headquartered in Lyon, France. INTERPOL serves as a repository for crime statistics from each of its 125 member nations. INTERPOL's data show that acts such as murder, assault, rape, and theft are considered serious crimes in every single country.



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▲ **Photo 1.1** Group portrait of a police department liquor squad posing with cases of confiscated alcohol and distilling equipment during Prohibition.

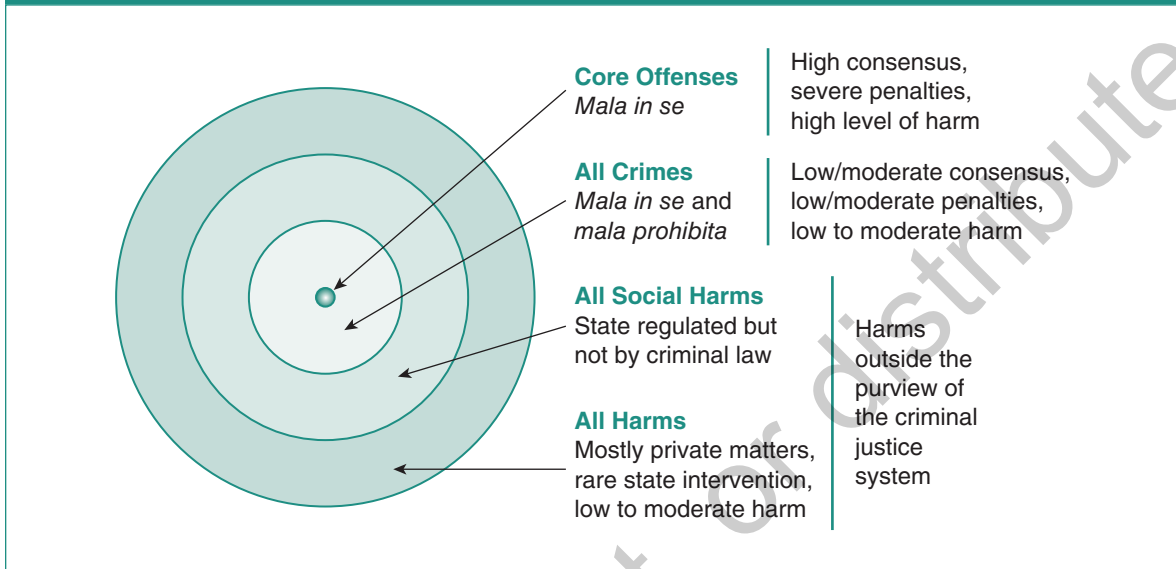
hammer at our deepest primordial instincts. Evolutionary biologists propose that these built-in emotional mechanisms exist because *mala in se* crimes threatened the survival and reproductive success of our distant ancestors, and that they function to strongly motivate people to try to prevent such acts and punish the perpetrators (O'Manique, 2003; Walsh, 2000).

Figure 1.1 illustrates the relationship of core crimes (*mala in se*) to acts that have been arbitrarily defined (*mala prohibita*) as crimes and to all harmful acts that may potentially be criminalized. The figure is inspired by John Hagan's (1985) effort to distinguish between "real" crimes and "socially constructed" arbitrary crimes by examining the three highly interrelated concepts of *consensus* (the degree of public agreement on the seriousness of an act), the *severity* of penalties attached to an act, and the level of *harm* attached to an act.

## Criminality

Perhaps we can avoid altogether the problem of defining crimes by studying individuals who commit predatory *harmful* acts, regardless of the legal status of the acts. Criminologists do this when they study criminality. **Criminality** is a clinical or scientific term rather than a legal one, and it can be defined independently of legal definitions of crimes. Crime is an intentional act of commission or omission contrary to the law; *criminality* is a property of individuals that signals the willingness to commit those and other harmful acts (Gottfredson & Hirschi, 1990). Criminality is a continuously distributed trait, such as low empathy, low self-control, high sensation-seeking, and

Criminologists call these universally condemned crimes ***mala in se*** (inherently bad). Crimes that are time and culture bound are described as ***mala prohibita*** (bad because they are prohibited). But, how can we be sure that an act is inherently bad? We can say that the litmus test for determining a *mala in se* crime is that no one would want to be the victim of it, except under the most bizarre of circumstances. Although millions of people seek to be "victimized" by prostitutes, drug dealers, bookies, or any of a number of other providers of illegal goods and services, no one wants to be murdered, raped, robbed, or have his or her property stolen. Being victimized by such actions evokes physiological reactions (anger, helplessness, sadness, depression, a desire for revenge) in all cultures, and would do so even if the acts were not punishable by law or custom. *Mala in se* crimes engage these emotions not because some legislative body has defined them as wrong, but because they

**Figure 1.1** • *Mala in Se* and *Mala Prohibita* Crimes as Subsets of All Harms

so on, that is a combination of other continuously distributed traits that signal the willingness to use force, fraud, or guile to deprive others of their lives, limbs, or property for personal gain. It is this propensity that defines criminality, independent of the labeling of an act as a crime or of the person being legally defined as a criminal. People can use and abuse others for personal gain regardless of whether the means used are defined as criminal.

Defining criminality as a continuous trait acknowledges that there is no sharp line separating individuals with respect to this trait—it is not a trait that one has or has not. At some point in their lives, just about everyone has committed an act or two in violation of the law. But, that doesn't make us all criminals; if it did, the term would become virtually synonymous with the word *human*! We are all situated somewhere on the criminality continuum, which ranges from saint to sociopath in the same way that our heights range from the truly short to the truly tall. The height of some individuals is so extreme that any reasonable person would call them “tall.” Likewise, a small number of individuals have violated so many criminal statutes over such a long period of time that few would question the appropriateness of calling them “criminals.” Thus, both height and criminality can be thought of as existing along a continuum, even though the words we use often imply that people's heights and criminal tendencies come in more or less discrete categories (tall/short, criminal/non-criminal). In other words, just as height varies in fine gradations, so too does involvement in crime.

## A Short History of Criminology

Criminology is a young discipline, although humans have probably been theorizing about crime and its causes ever since they first made rules and observed others breaking them. In the past, what and how people thought about crime and criminals (as well as all other things) was strongly influenced by the social and intellectual currents of their time. This is no less true of what and how modern professional criminologists think about crime and criminals. In prescientific days, explanations for bad behavior were often of a religious or spiritual nature, such as demonic possession or the abuse of free will. Because of the legacy of Original Sin, all human beings were considered

born sinners. The gift of the grace of God kept men and women on the straight and narrow, and if they deviated from this line, it was because God was no longer their guide and compass.

Other, more intellectual types believed that the human character and personality are observable in physical appearance. Consider Shakespeare's Julius Caesar's distrust of Cassius because he "has a lean and hungry look." Such folk wisdom was systematized by an Italian physician named Giambattista della Porta, who developed a theory of human personality called *physiognomy* in 1558. Porta claimed that the study of physical appearance, particularly of the face, could reveal much about a person's personality and character. Thieves, for instance, were said to have large lips and sharp vision.

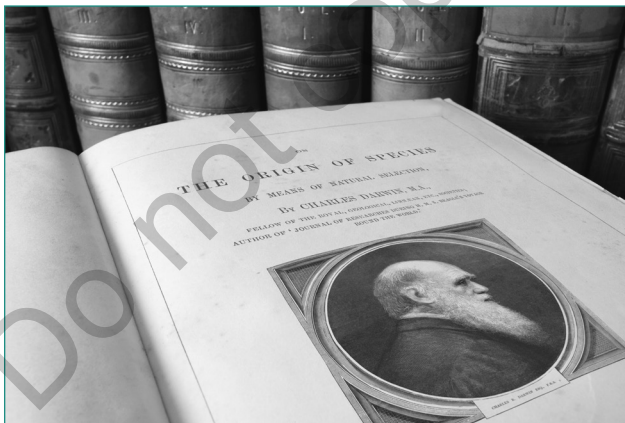
Porta was writing during the Renaissance, a period between approximately 1450 and 1600 that saw a change in thinking from the pure God-centered supernaturalism and relative barbarism of the Middle Ages to a more human-centered naturalism. *Renaissance* means "rebirth" and refers to the rediscovery of the thinking traditions of the ancient Greeks. The sciences (primitive as they were) and arts were becoming important, the printing press was invented, and Christopher Columbus "discovered" America during this period. In short, the Renaissance began to move human thinking away from the absolute authority of received opinion and toward a way that would eventually lead to the modern scientific method.

Another major demarcation in the modern world was the emergence of the Age of Reason or the **Enlightenment**. The Enlightenment was the period approximately between 1650 and 1800. It might be said that the Renaissance provided a key to the human mind and the Enlightenment opened the door. Whereas the Renaissance is associated with advances in art, literature, music, and philosophy, the Enlightenment is associated with advances in mathematics, science, and the belief in the dignity and worth of the individual as exemplified by a concern for human rights. This concern led to reforms in criminal justice systems throughout Europe, a process given a major push by Cesare Beccaria's (1764/1963) work *On Crimes and Punishments*, which ushered in the so-called classical school. The classical school emphasized human rationality and free will in its explanations for criminal behavior. Beccaria and other classical thinkers are discussed at length in Section IV.

Modern criminology really began to take shape with the increasing faith among intellectuals that science could provide answers for everything. These individuals witnessed the harnessing of the forces of nature to build and operate the great machines and mechanisms that drove the Industrial Revolution. They also witnessed the strides made in biology after Charles Darwin's works on the evolution of species. Criminology saw the beginning of the so-called *positivist school* during this period. Theories of character—like phrenology, a system invented by Franz

Josef Gall for assessing personality from physical features of the skull—abounded. The basic idea behind phrenology was that cognitive functions are localized in the brain, and the parts regulating the most dominant functions are bigger than parts regulating the less dominant ones. Criminals were said to have large protuberances in parts of the brain thought to regulate craftiness, brutishness, moral insensibility, and so on, and small bumps in such "localities" as intelligence, honor, and piety.

The biggest impact during this period, however, was made by Cesare Lombroso's 1876 theory of atavism, or the born criminal. Criminologists from this point on were obsessed with measuring, sorting, and sifting all kinds of data (mostly physical) about criminal behavior. The main stumbling block to criminological advancement during this



▲ **Photo 1.2** Charles Darwin (1809–1882) heavily influenced biological positivism in criminology.

period was the inadequacy of its research. The intricacies of scientifically valid research design and measurement were not appreciated, and statistical techniques were truly primitive by today's standards. The early positivist thinkers are discussed at length in Section IV.

The professed Progressive Era (about 1890 to 1920) ushered in new social ideologies and new ways of thinking about crime. This era was one of liberal efforts to bring about social reform as unions, while women and other disadvantaged groups struggled for recognition. Criminology largely turned away from what was disparagingly termed “biological determinism,” which implied that nothing could be done to reform criminals, and turned toward cultural determinism. If behavior is caused by what people experience in their environments, so the optimistic argument went, then we can change their behavior by changing their environment. It was during this period that sociology became the disciplinary home of criminology. Criminology became less interested in why individuals commit crimes from a biological or psychological point of view and more concerned with aggregate-level data (social structures, neighborhoods, subcultures, etc.). It was also during this period that a structural theory of crime like the Chicago school of social ecology was formulated. Anomie strain theory was another structural/cultural theory that emerged somewhat later (1938), and was doubtless influenced strongly by the American experience of the Great Depression and of the exclusion of African Americans from many areas of American society.

The period from the 1950s through the early 1970s saw considerable dissatisfaction with the strong emphasis on the structural approach, which many viewed as proceeding as if individuals were almost irrelevant to explaining criminal behavior. Criminological theory moved toward integrating psychology and sociology during this period and strongly emphasized the importance of socialization. Control theories were extremely popular at this time, as was labeling theory; these are addressed in Section VI.

Because the latter part of this period was a time of great tumult in the United States (as a result of the anti-war, civil rights, women's, and gay rights movements), it also saw the emergence of several theories like conflict theory, which were highly critical of American society. These theories extended to the earlier works of Marxist criminologists, who tended to believe that the only real cause of crime was capitalism. These theories provided little new in terms of our understanding of “street” criminal behavior, but they did spark an interest in white-collar crime and how laws are made by the powerful and applied against the powerless. These theories are addressed in Section VII.

Perhaps because of a new conservative mood in the United States, theories reemerged in the 1980s with the classical taste for free will and rationality (albeit modified) embedded in them. These were rational choice, deterrence, and routine activities theories, all of which had strong implications for criminal justice policy. These are discussed in Section IV.

In the late 1990s and early 2000s, we witnessed a resurgence of biosocial theories. These theories view all behavior as the result of various biological factors interacting with each other, and with the past and present environments of the actors involved. Biosocial theories have been on the periphery of criminology since its beginning, but have been hampered by perceptions that they are driven by an illiberal agenda and by their inability to “get inside” the mysteries of heredity and the workings of the brain. Over the past two decades, with the truly spectacular advances in observational techniques (brain scan methods, \$10 cheek swabs to test DNA, etc.) and in the genomic and neurosciences these things are less of a mystery today, and social scientists are increasingly realizing that there is nothing illiberal about recognizing the biology of human nature.

No science advances without the technology at its disposal to plumb its depths. For instance, the existence of atoms was first proposed by Greek philosophers more than 2,500 years ago. This was dismissed as merely philosophical speculation until the early 19th century, when English chemist John Dalton proposed his atomic theory of chemistry, which asserted that all chemical reactions are the rearrangements of atoms. Dalton was heavily criticized by chemists who wanted a “pure” chemistry uncontaminated by physics. Yet chemists everywhere soon adopted the idea of atoms, but still debated whether they were an actual physical reality or just a useful concept. Using scanning tunneling microscopes, we can today see individual atoms, and the argument has been put to rest.

The selected Section Reading by John Paul Wright and Danielle Boisvert asserts that criminologists are in a position similar to that of chemists 100 years ago; they claim that criminology is on the brink of a paradigm shift as these young men and women become excited at the prospect of gaining access to hard physical data. The concepts, methods, and measuring devices available to geneticists, neuroscientists, endocrinologists, and other biological scientists may do for the progress of criminology what physics did for chemistry, what chemistry did for biology, and what biology is increasingly doing for psychology. Exceptionally ambitious longitudinal studies carried out over decades in concert with medical and biological scientists, such as the Dunedin Multidisciplinary Health and Development Study (Moffitt, 1993), the National Longitudinal Study of Adolescent Health Study (Udry, 2003), and the National Youth Survey (Menard & Mihalic, 2001), are able to gather a wealth of genetic, neurological, and physiological data. Such studies are being conducted with increasing frequency. Integrating these hard science disciplines into criminology will no more rob it of its autonomy than physics robbed chemistry or chemistry robbed biology. On the contrary, physics made possible huge advances in chemistry, and chemistry did the same for biology. These advances would not have happened had scientists maintained their call for the “purity” of their disciplines. As Matt DeLisi (2009) nicely put it: “Never before has the sublime interplay between nature and nurture been available for scientific discovery” (p. 266).

## The Role of Theory in Criminology

When an FBI agent asked the Depression-era bank robber Willie Sutton why he robbed banks, Sutton replied, “Because that’s where the money is.” In his own way, Sutton was offering a theory explaining the behavior of bank robbers. Behind his witty answer is a model of a kind of person who has learned how to take advantage of opportunities provided by convenient targets flush with a valued commodity. Thus, if we put a certain kind of personality and learning together with opportunity and coveted resources, we get bank robbery. This is what theory making is all about: trying to grasp how all the known correlates of a phenomenon are linked together in noncoincidental ways to produce an effect.

Just as medical scientists want to find out what causes disease, criminologists are interested in finding factors that cause crime and criminality. As is the case with disease, there are a variety of risk factors to consider when searching for causes of criminal behavior. The first step is to discover **correlates**, which are factors that are related to the phenomenon of interest. To discover whether two factors are related, we must see whether they vary together; that is, if one variable increases or decreases, the other increases or decreases as well.

Establishing causality requires much more than simply establishing a correlation. Take gender, the most thoroughly documented correlate of criminal behavior ever identified. Literally thousands of studies throughout the world, some European studies going back five or six centuries, have consistently reported strong gender differences in all sorts of antisocial behavior, including crime, and the more serious the crime the stronger that difference. All studies are unanimous in indicating that males are more criminal than females. Establishing *why* gender is such a strong correlate of crime is the real challenge, as it is with any other correlate. Trying to establish causes is the business of theory.

## What Is Theory?

A **theory** is a set of logically interconnected propositions explaining how phenomena are related and from which a number of hypotheses can be derived and tested. Theories should provide coherent explanations of the phenomena they address, they should correspond with the relevant empirical facts, and they should provide practical guidance for researchers looking for further facts. This guidance takes the form of a series of statements that can be logically deduced from the assertions of the theory. We call these statements **hypotheses**, which are statements about relationships between and among factors we expect to find based on the logic of our theories. Hypotheses and theories support one another, in the sense that theories provide the raw material (the ideas) for generating hypotheses, and hypotheses support or fail to support theories by exposing them to empirical testing.



Theories are devised to explain how a number of different correlates may actually be causally related to crime and criminality rather than simply associated with them. We emphasize that when we talk of causes we do not mean that when *X* is present *Y* will occur in a completely prescribed way. We mean that when *X* is present *Y* has a certain *probability* of occurring and perhaps only if *X* is present along with factors *A*, *B*, and *C*. In many ways, crime is like illness because there may be as many routes to becoming criminal as there are to becoming ill. In other words, criminologists have never uncovered a **necessary cause** (a factor that *must* be present for criminal behavior to occur, and in its absence criminal behavior has never occurred) or a **sufficient cause** (a factor that is able to produce criminal behavior without being augmented by some other factor).

There is a lot of confusion among laypersons about the term *theory*. We often hear statements like “That’s just theory” or hear it negatively contrasted with practice: “That’s all right in theory, but it won’t work in the real world.” Such statements imply that a theory is a poor relative of a fact, something impractical we grasp at in the absence of solid, practical evidence. Nothing could be further from the truth. Theories help us to make sense of a diversity of seemingly unrelated facts and propositions, and they even tell us where to look for more facts, which make theories very practical things indeed.

Think of facts as building materials—brick, glass, wood, steel—and theories as the finished building after skilled workers have fitted all these materials together according to a blueprint. We all use theory every day to fit facts together this way. A detective confronted with a number of facts about a mysterious murder must fit them together, even though their meaning and relatedness to one another is ambiguous and perhaps even contradictory. Using years of experience, training, and good common sense, the detective constructs a theory linking those facts together so that they begin to make some sense and begin to tell their story. An initial theory derived from the available facts then guides the detective in the search for additional facts in a series of “*if this is true, then this should be true*” statements. There may be many false starts as our detective misinterprets some facts, fails to uncover others, and considers some to be relevant when they are not. Good detectives, like good scientists, adjust their theory as new facts warrant; poor detectives and poor scientists stand by their favored theory by not looking for more facts or by ignoring, downplaying, or hiding contrary facts that come to their attention. When detectives do this, innocent people suffer and guilty people remain unknown; when scientists do this, the progress of science suffers.

The physical and natural sciences enjoy a great deal of agreement about what constitutes the core body of knowledge within their disciplines and thus have few competing theories. Within criminology, there is little agreement about the nature of the phenomena we study, and so we suffer an embarrassment of theoretical riches. Given the number of criminological theories, students may be forgiven for asking which one is true. Scientists never use the term *truth* in scientific discourse; rather, they tend to ask which theory is most useful. Criteria for judging the merits of a theory are summarized below (Ellis, 1994, pp. 202–205):

1. *Predictive Accuracy*: A theory has merit and is useful to the extent that it accurately predicts what is observed. That is, the theory has generated a large number of research hypotheses that have supported it. This is the most important criterion.
2. *Predictive Scope*: The scope or range of the theory and thus the scope or range of the hypotheses that can be derived from it. That is, how much of the empirical world falls under the explanatory umbrella of Theory A compared to how much falls under Theory B.
3. *Simplicity*: If two competing theories are essentially equal in terms of the first two criteria, then the less complicated one is considered more “elegant.”
4. *Falsifiability*: A theory is never proven true, but it must have the quality of being falsifiable or disprovable. If a theory is formulated in such a way that no amount of evidence could possibly falsify it, then the theory is of little use.

## How to Think About Theories

One reason there are so many theories in criminology is that different theories deal with different levels of analysis. The **level of analysis** is the segment of the phenomenon that is measured and analyzed. We can analyze causes of crime at the levels of whole societies, subcultures, neighborhoods, families, or individuals. Answers to the question of crime causation at one level do not generally answer the same question at another level. For instance, suppose that at the individual level there is strong evidence to support the notion that crime is linked to impulsiveness and low IQ. Do you think that this evidence will help us to understand why the crime rate in Society A is 2.5 times that of Society B, or why the crime rate in Society C last year was 25% lower than it was 20 years ago? It would do so only in the extremely unlikely event that Society A has 2.5 times as many impulsive low-IQ people as Society B, or that Society C has lost 25% of its people with those characteristics in the last 20 years. If the question posed asks about crime rates in whole societies, the answers must address sociocultural differences among different societies or in the same society at different times.

Conversely, if crime rates are found to be quite strongly related to the degree of industrialization or racial/ethnic diversity in societies, this tells us nothing about why some people in an industrialized, heterogeneous society commit crimes and others in the same society do not. To answer questions about individuals, we need theories about individuals. Generally speaking, questions of cause and effect must be answered at the same level of analysis at which they were posed; thus, different theories are required at different levels.

The second reason we have so many theories is that different theories deal with different temporal levels: Theories can offer *ultimate* (distant in time) or *proximate* (close in time) explanations of crime and criminality. If we say that people like Willie Sutton rob banks because they are people psychologically prepared to commit bank robbery who have the opportunity to do so, the possible levels of explanation range from the ultimate (the evolutionary history of the species) to the most proximate level (the opportunity to rob a particular bank on a particular day). Between these extreme levels are genetic, temperamental, developmental, personality, familial, experiential, and social environmental explanations. We will discuss theories offering explanations for crime at all levels, but you should realize that in reality, these levels describe an integrated whole as people interact with their environments.

We know that crime rates change in society, sometimes drastically, without any corresponding change in the gene pool or personalities of the people. Because causes are sought only among factors that vary, changing sociocultural environments must be the only causes of changing crime rates. Environmental changes raise or lower individual thresholds for engaging in crime, and some people have lower thresholds than others. People with weak criminal propensities (or high prosocial propensities) require high levels of environmental instigation to commit crimes, but some individuals will engage in criminal behavior in the most benign of environments. When—or whether—individuals will cross the threshold to commit criminal acts depends on the interaction between their personal thresholds and the environmental thresholds.

Interpreting the meaning of research findings is not as simple as documenting correlates of crime. There is little room for error when contrasting rates of crime between and among the various demographic variables, such as age, gender, and race/ethnicity. Nor is there much difficulty (unless one wants to split fine hairs) in defining and classifying people into those categories. But, theory testing looks for causal explanations rather than simple descriptions, and that's where our problems begin. For example, when we consistently find positive correlations between criminal behavior and some other factor, it is tempting to assume that something causal is going on, but as we said previously, correlations merely *suggest* causes; they do not demonstrate them. Resisting the tendency to jump to causal conclusions from correlations is the first lesson of statistics.

## Ideology in Criminological Theory

We have seen how criminological theorizing is linked to the social and intellectual climate of the times. It is also essential that we understand the role of ideology in criminology. **Ideology** is a way of looking at the world; it is a general emotional picture of “how things should be.” This implies a selective interpretation and understanding of

evidence that comes to our senses rather than an objective and rational evaluation of the evidence. Ideology forms, shapes, and colors our concepts of crime and its causes in ways that lead to a tendency to accept or reject new evidence according to how well or poorly it fits our ideology. We rarely see a discussion of ideology in criminology textbooks, which leads students to believe that criminological arguments are settled with data in the same manner that natural science arguments typically are settled. Unfortunately, this is not always the case in criminology.

According to Thomas Sowell (1987), two contrasting visions have shaped thoughts about human nature throughout history, and these visions are in constant conflict with each other. The first of these visions is the **constrained vision**, purportedly named because believers in this vision view human activities as constrained by an innate human nature that is self-centered and largely unalterable. The **unconstrained vision** denies the existence of an innate human nature; it views human nature as formed anew in each different culture. The unconstrained vision also believes that human nature is perfectible, a view scoffed at by those who profess the constrained vision. A major difference between the two visions is that the constrained vision says, “This is how the world *is*”; the unconstrained vision says, “This is how the world *should be*.” These visions are what sociologists call *ideal types*, which are conceptual tools that accentuate differences between competing positions for purposes of guiding the exploration of them. There are many “visions” that are hybrids of the two extremes; Sowell lists Marxism, for instance, as a prominent hybrid of the two visions.

The two contrasting ways of approaching a social problem like crime are aptly summed up by Sowell (1987): “While believers in the unconstrained vision seek the special causes of war, poverty, and crime, believers in the constrained vision seek the special causes of peace, wealth, or a law-abiding society” (p. 31).

Note that this implies that unconstrained visionaries (mostly liberals) believe that war, poverty, and crime are aberrations to be explained, while constrained visionaries (mostly conservatives) see these things as historically normal and inevitable, although regrettable, and believe that what has to be understood are the conditions that prevent them. We can see the tension between these two visions constantly as we discuss the various theories in this book.

Given this, it should be no surprise to discover that criminological theories differ on how they approach the “crime problem.” A theory of criminal behavior is at least partly shaped by the ideological vision of the person who formulated it, and that, in turn, is partly due to the ideological atmosphere prevailing in society. Sowell (1987) avers that a vision “is what we sense or feel *before* we have constructed any systematic reasoning that could be called a theory, much less deduced any specific consequences as hypotheses to be tested against evidence” (p. 14).

Those who feel drawn to a particular theory likewise owe a great deal of their attraction to it to the fact that they share the same vision as its formulator. In other words, “visions,” more so than hard evidence, often lead criminologists to favor one theory over another more strongly than most care to acknowledge (Cullen, 2005, p. 57).

Orlando Patterson (1998) views ideology as a major barrier to advancement in the human sciences. He states that conservatives believe only “the proximate internal cultural and behavioral factors are important (‘So stop whining and pull up your socks, man!’),” and “liberals and mechanistic radicals” believe that “only the proximate and external factors are worth considering (‘Stop blaming the victim, racist!’)” (p. ix). Patterson’s observation reminds us of the ancient Indian parable of the nine blind men feeling different parts of an elephant. Each man described the elephant according to the part of its anatomy he had felt, but each failed to appreciate the descriptions of the others who felt different parts. The men fell into dispute and departed in anger, each convinced of the utter stupidity, and perhaps the malevolence, of the others. The point is that ideology often leads criminologists to “feel” only part of the criminological elephant and then to confuse the parts with the whole. As did the blind men, criminologists sometimes question the intelligence and motives (e.g., having some kind of political agenda) of other criminologists who have examined different parts of the criminological elephant. Needless to say, such criticisms have no place in scientific criminology.

There is abundant evidence that political ideology is linked to the theories that are favored among contemporary criminologists. Cooper, Walsh, and Ellis (2010) asked 379 criminologists which theory they considered to be “most viable with respect to explaining variations in serious and persistent criminal behavior.” In other words,

they were asked what theory best explained criminal behavior. As you see in Table 1.1, 24 different theories were represented, but obviously they cannot all be the “most viable,” so something other than evidence was instrumental in their choices. The best predictor of a favored theory was the criminologists’ self-reported ideology (conservative, moderate, liberal, or radical). The “ $\chi^2 = 134.6, p < 0.001$ ” notation means that the probability of this occurring by chance is less than 1 in 1,000 similar samplings, so it is a finding in which one can be quite confident. The same study found that very few criminologists had more than one psychology class and that even fewer had one or more biology classes. Ideology and the lack of interdisciplinary training will no doubt continue to plague the development of a theory of crime and criminality that is acceptable to all criminologists. When reading this text, try to understand where the originators, supporters, and detractors of any particular theory are “coming from” ideologically as well as theoretically.

### Connecting Criminological Theory and Social Policy

Theories of crime causation imply that changing the conditions the theory holds responsible for causing crime can reduce crime and even prevent it. We say “imply” because few theorists are explicit about the public policy implications of their work. Scientists are primarily concerned with gaining knowledge for its own sake; they are only secondarily concerned with how useful that knowledge may be to practitioners and policymakers. Conversely, policymakers are less concerned with hypothesized “causes” of a problem and more concerned with what practically can be done about the problem that is both politically and financially feasible.

**Table 1.1 • Favored Theory Cross-Tabulated by Self-Reported Political Ideology**

Theory Favored*	Political Ideology				Total
	Conservative	Moderate	Liberal	Radical	
Social learning (2, 6)	1	22	22	5	50
Life course/developmental (n/a, 11)	3	8	28	3	42
Social control (1, 1)	0	14	27	1	42
Social disorganization (7, 14)	0	11	26	3	40
Self-control (n/a, 2)	3	6	15	0	24
Biosocial (4, 12)	5	5	11	0	21
Rational choice	2	7	11	1	21
Conflict (n/a, 4)	0	2	8	6	16
Critical (10, 18)	0	0	8	8	16
Differential association (4, 3)	1	4	10	1	16
Age-graded developmental	1	5	7	0	13
Strain (n/a, 8)	0	3	9	0	12
Dual-pathway developmental (n/a, 5)	1	0	10	0	11

Theory Favored*	Political Ideology				
	Conservative	Moderate	Liberal	Radical	Total
Routine activities (n/a, 9)	1	2	8	0	11
General strain	0	2	4	1	7
Institutional anomie	0	1	5	0	6
Interactional	0	1	5	0	6
Opportunity (5, 15)	1	2	2	0	5
Ecological (n/a, 23)	1	1	2	0	4
Labeling (6, 17)	0	1	2	1	4
Psychological	0	1	3	0	4
Classical (n/a, 20)	0	3	0	0	3
Feminist (n/a, 10)	0	0	2	1	3
Anomie (9, 6)	0	1	1	0	2
TOTAL	20	102	226	31	379

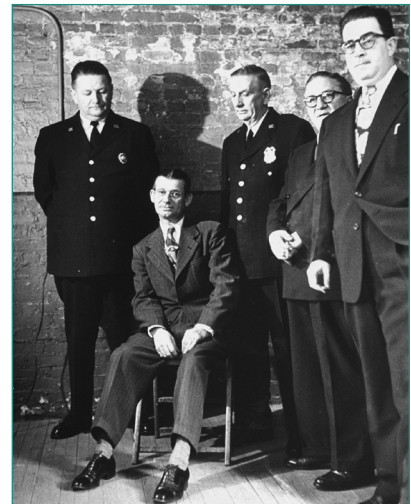
SOURCE: Cooper, Walsh, and Ellis (2010).

$\chi^2 = 134.6, p < 0.001$

\*Numbers in parentheses represent ranking of theories in Ellis and Hoffman (1990) and Walsh and Ellis (2004). Theories without ranking were not represented in those surveys.

**Policy** is simply a course of action designed to solve some problem that has been selected from among alternative courses of action. Solving a social problem means attempting to reduce the severity of the problem or to enact strategies that try to prevent it. Social science findings can and have been used to help policymakers determine which course of action to follow to “do something” about the crime problem, but there are many other concerns that policymakers must consider that go beyond maintaining consistency with social science theory and data. The question of “what to do about crime” involves political and financial considerations, the urgency of other problems competing for scarce financial resources (schools, highways, environmental protection, public housing, national defense), and a host of other major and minor considerations.

Policy choices are, at bottom, value choices, and as such only those policy recommendations that are ideologically palatable are likely to be implemented. Given all of these extratheoretical considerations, it is unfair to base our judgment of a theory’s power solely, or even primarily, on its impact on public policy. Even if some aspects of policy are theory-based, unless all recommendations of the theory are fully implemented,



▲ Photo 1.3 Bank robber Willie Sutton at the courthouse for his trial.

the success or failure of the policy cannot be considered evidence of theoretical failure any more than a baker can blame a recipe for making a lousy cake if he or she neglects to include all the ingredients.

Connecting problems with solutions is a tricky business in all areas of government policy making, but nowhere is it more difficult than in the area of criminal justice. No single strategy can be expected to produce significant results, and it may sometimes make matters worse. For example, President Johnson's "War on Poverty" was supposed to have a significant impact on the crime problem by attacking what informed opinion of the time considered its "root cause." Programs and policies that were developed to reduce poverty did so, but reducing poverty had no effect on reducing crime; in fact, crime rose as poverty was falling. Another high profile example of failed policy is the Volstead Act of 1919, which prohibited the manufacture and sale of alcohol in the United States. Although based on a true premise (alcohol is a major factor in facilitating violent crime), it failed because it ushered in a wild period of crime as gangs fought over control of the illegal alcohol market. The same can be said of the modern policy relating to the "war on drugs." Policies often have effects that are unanticipated by policymakers, and these effects can be positive or negative.

Nevertheless, every theory has policy implications deducible from its primary assumptions and propositions. The deep and lasting effects of the classical theories on legal systems around the world has long been noted, but the broad generalities about human nature contained in those theories offer little specific advice on ways to change criminals or to reduce their numbers. Although we caution against using the performance of a theory's public policy recommendations as a major criterion to evaluate its power, the fact remains that a good theory *should* offer useful practical recommendations, and we will discuss a theory's policy implications when appropriate. We should always be skeptical about large-scale programs designed to change people's behavior, however. Those who advocate such policies are often far too optimistic, often commence with the notion that human nature is extremely pliable and easy to change, and offer their policy suggestions without adequate information.

## A Brief Word About the Section Readings

Because this book is a hybrid text/reader, a few words are warranted about the rationale behind our choice of articles. The readings in each section are meant to provide further depth in the material covered in the text. The theoretical sections (IV through X) contain a mixture of "classical" readings by the old masters and modern quantitative or qualitative readings. One may wonder why we bother presenting classical pieces; after all, the great philosopher/mathematician Alfred North Whitehead once opined that "a science that hesitates to forget its founders is lost" (Kuhn, 1970, p. 138). Whitehead's warning is apt if taken to mean that the reverence and reputation attached to the founders should never stand in the way of evidence of better explanations. However, as Kuhn notes, a science needs its heroes: "Fortunately, instead of forgetting these heroes, scientists have been able to forget or revise their works" (p. 139). If science forgets its founders completely, it risks repeating some of their overly dogmatic errors. Additionally, we should not be asked to forget them before we get to know them because much of what they wrote still has relevance as foundation material for subsequent researchers.

Our initial reading selection, Lawrence Sherman's article, "The Use and Usefulness of Criminology, 1751–2005: Enlightened Justice and Its Failures" (Reading 1), serves a number of purposes. First, it adds a little more to the history of criminology, especially its beginnings in the Enlightenment. Of particular interest is his discussion of English magistrate Henry Fielding, who Sherman believes is more entitled to the mantle of Father of Criminology than Beccaria or Lombroso because, unlike those two, Fielding put his ideas to a real-world test, which is something about a founding figure that we should never forget. Sherman's article also illustrates our point about tying theory to policy; indeed, the whole piece is a plea to more closely tie criminology to policy. Sherman argues that criminology has been, and is, overwhelmingly analytical (theory-generating and testing) rather than experimental ("show me evidence from the real world"). Although he maintains that the strength of experimental criminology will rest on

the strength of analytic criminology, he believes that the growth and acceptance of criminology rests more on its experimental results than advances in its basic science.

## SUMMARY

- Criminology is the scientific study of crime and criminals. It is an interdisciplinary/multidisciplinary study, although criminology has yet to integrate these disciplines in any comprehensive way.
- The definition of crime is problematic because acts that are defined as criminal vary across time and culture. Many criminologists believe that because crimes are defined into existence we cannot determine what real crimes and criminals are. However, there is a stationary core of crimes that always have been and remain universally condemned. These crimes are predatory crimes that cause serious harm and are defined as *mala in se* (inherently bad) crimes, as opposed to *mala prohibita* (bad because they are forbidden) crimes.
- The history of criminology shows that the cultural and intellectual climate of the time strongly influences how scholars think about and study crime and criminality. The Renaissance introduced more secular thinking; the Enlightenment more humane and rational thinking; the Industrial Revolution brought with it more scientific thinking; and the Progressive Era revealed a reform-oriented criminology reminiscent of the classical school.
- Advances in any science are also constrained by the tools available to test theories. The ever-improving concepts, methods, and techniques available from modern genetics, neuroscience, and other biological sciences will add immeasurably to criminology's knowledge base in the near future.
- Theory is the "bread and butter" of any science, including criminology. There are many contending theories seeking to explain crime and criminality. Although this theoretical disagreement is not observed in the more established sciences, the social/behavioral sciences are young, and human behavior is extremely difficult to study.
- When judging the various theories we have to keep certain things in mind, including predictive accuracy, scope, simplicity, and falsifiability. We must also remember that crime and criminality can be discussed at many levels (social, subcultural, family, or individual) and that a theory that may do a good job of predicting crime at one level may do a poor job at another level.
- Theories can also be offered at different temporal levels. They may focus on the evolutionary history of the species (the ultimate level), the individual's subjective appraisal of a situation (the most proximate level), or any temporal level in between. A full account of an individual's behavior may have to take all these levels into consideration since all behavior arises from an individual's propensities interacting with the current environment as that individual perceives it. This is why we approach the study of crime and criminality from social, psychosocial, and biosocial perspectives.
- Criminologists have not traditionally done this, preferring instead to examine only aspects of criminal behavior that they find congenial to their ideology and, unfortunately, often maligning those who focus on other aspects. The main dividing line in criminology has separated conservatives (who tend to favor explanations of behavior that focus on the individual) and liberals (who tend to favor structural or cultural explanations). The theories favored by criminologists are strongly correlated with sociopolitical ideology.
- All theories have explicit or implicit recommendations for policy because they posit causes of crime or criminality. Removing those alleged causes should reduce crime if the theory is correct, but the complex nature of crime and criminality makes policy decisions based on theory very risky indeed. Policymakers must consider many other issues that also demand scarce resources, so the policy content of a theory should never be used to pass judgment on the usefulness of theory for criminologists.

## KEY TERMS

Constrained vision 11	Harm 3	Necessary cause 9
Correlates 8	Hypotheses 8	Policy 13
Crime 2	Ideology 10	Sufficient cause 9
Criminality 4	Level of analysis 10	Theory 8
Criminology 1	Mala in se 4	Unconstrained vision 11
Enlightenment 6	Mala prohibita 4	

## EXERCISES AND DISCUSSION QUESTIONS

- Which of the following acts do you consider *mala in se* crimes, *mala prohibita* crimes, or no crime at all? Defend your choices.
  - drug possession
  - vandalism
  - drunk driving
  - collaborating with the enemy
  - sale of alcohol to minors
  - fraud
  - spouse abuse
  - adult male having consensual sex with underage person
  - prostitution
- Why is it important to consider ideology when evaluating criminologists' work? Is it possible for them to divorce their ideology from their work?
- The table below presents a list of seven acts that are considered criminal offenses. Add three more offenses that interest you to this list. Then, rate each of the 10 acts on a scale from 1 to 10 in terms of your perception of each one's seriousness (with 10 being the most serious). Give your list to a person of the opposite gender without letting him or her see your ratings, and ask him or her to rate the offenses on the same 10-point scale. After he or she is finished, compare your ratings and discuss each inconsistency of two or more ranking points. Write a one- to two-page double-spaced report on how you and the other person differ from and resemble one another in your thoughts about the seriousness of crime. Is there a gender difference?

Offense	Ranking by Someone Else	Your Ranking
Alcohol consumption by a minor		
Assassinating an unpopular political leader		
Killing a repeatedly abusive spouse		



Offense	Ranking by Someone Else	Your Ranking
Raping a stranger with threats to use a deadly weapon		
Committing rape on a date by threatening bodily harm		
Driving while extremely drunk		
Molesting a young child		
Total of all rankings		

4. Go to [www.isus.edu/offices-and-services/community-outreach/the-journal-of-ideology](http://www.isus.edu/offices-and-services/community-outreach/the-journal-of-ideology) for the online journal *Quarterly Journal of Ideology*. Click on “Archives” and find and read “Ideology: Criminology’s Achilles’ Heel?” What does this article say about the “conflict of visions” in criminology?



Visit the Student Study Site at [www.sagepub.com/walsh4e](http://www.sagepub.com/walsh4e) for additional study tools including eFlashcards, web quizzes, video resources, audio clips, web resources, and SAGE journal articles.

## How to Read a Research Article

As you travel through your criminal justice and criminology studies, you will soon learn that some of the best-known and emerging explanations of crime and criminal behavior come from research articles in academic journals. This book is full of research articles, and you may be asking yourself, “How do I read a research article?” It is my hope to answer this question with a quick summary of the key elements of any research article, followed by the questions you should be asking and answering as you read through the assigned sections.

Every research article published in a social science journal has the following elements: (1) introduction, (2) literature review, (3) methodology, (4) results, and (5) discussion/conclusion.

The introduction is an overview of the purpose of the research. Within the introduction, you will find the hypothesis or hypotheses. A hypothesis is most easily defined as an educated statement or guess. In most hypotheses, the usual format is “If X, Y will occur.” For example, a simple hypothesis may be “If the price of gas increases, more people will ride bikes.” This is a testable statement that the researcher wants to address in his or her study. Usually, authors will state the hypothesis directly, but not always. Therefore, you must be aware of what the author is actually testing in the research project. If you are unable to find the hypothesis, ask yourself what is being tested or manipulated and what are the expected results.

The next section of the research article is the literature review. At times, the literature review is separated from the text in its own section, and at other times, it is found within the introduction. In any case, the literature review is an examination of what other researchers have already produced in terms of the research question or hypothesis. For example, returning to my hypothesis on the relationship between gas prices and bike riding, we may find that five researchers previously conducted studies on the increase of gas prices. In the literature review, the author discusses their findings and then proposes what his or her study will add to the existing research. The literature review may also be used as a platform of support for the hypothesis. For example, one researcher may have already determined that an increase in gas prices causes more people to rollerblade to work. The author can use this study as evidence to support his or her hypothesis that increased gas prices will lead to more bike riding.

The methods used in the research design are found in the next section of the research article. The methodology section comprises the following: who/what was studied, how many subjects were studied, the research tool (e.g., interview, survey, observation), how long the subjects were studied, and how the data that were collected were processed. The methodology section is usually very concise, with every step of the research project recorded. This is important because a major goal of the researcher is reliability; describing exactly how the research was done enables other researchers to repeat it. Reliability is determined by whether the results are the same.

The results section is an analysis of the researcher’s findings. If the researcher conducted a quantitative study, using numbers or statistics to explain the research, there are statistical tables and analyses that explain whether or not the researcher’s hypothesis is supported. If the researcher conducted a qualitative study, non-numerical research for the purpose of theory construction, the results are usually displayed as a theoretical analysis or interpretation of the research question.

The research article will conclude with a discussion and summary of the study. In the discussion, the hypothesis is usually restated, and there may be a small discussion of why this hypothesis was selected. You will also find a brief overview of the methodology and results. Finally, the discussion section looks at the implications of the research and what future research is still needed.

Now that you know the key elements of a research article, let us examine a sample article from this text.

## The Use and Usefulness of Criminology, 1751–2005: Enlightened Justice and Its Failures

### 1. What is the thesis or main idea from this article?

- The thesis or main idea is found in the introductory paragraph of this article. Although Sherman does not point out the main idea directly, you may read the introduction and summarize the main idea in your own words. For example, “The thesis or main idea is that criminology should move away from strict analysis and toward scientific experimentation to improve the criminal justice system and crime control practices.”

### 2. What is the hypothesis?

- The hypothesis is found in the introduction of this article. It is first stated in the beginning paragraph: “As experimental criminology provides more comprehensive evidence about responses to crime, the prospects for better basic science—and better policy—will improve accordingly.” The hypothesis is also restated in the middle of the second section of the article. Here, Sherman actually distinguishes the hypothesis by stating, “The history of criminology . . . provides an experimental test of this hypothesis about analytic versus experimental social science: that social science has been most useful, if not most used, when it has been most experimental, with visibly demonstrable benefits (or harm avoidance) from new inventions.”

### 3. Is there any prior literature related to the hypothesis?

- As you may notice, this article does not have a separate section for a literature review. However, note that Sherman devotes attention to prior literature under the heading “Enlightenment, Criminology, and Justice.” Here, he offers literature regarding the analytical and experimental history of criminology. This brief overview helps the reader understand the prior research, which explains why social science became primarily analytic.

### 4. What methods are used to support the hypothesis?

- Sherman’s methodology is known as a historical analysis. In other words rather than conducting his own experiment, Sherman is using evidence from history to support his hypothesis regarding analytic and experimental criminology. When conducting a historical analysis, most researchers use archival material from books, newspapers, journals, and so on. Although Sherman does not directly state his source of information, we can see that he is basing his argument on historical essays and books, beginning with Henry Fielding’s *An Enquiry Into the Causes of the Late Increase of Robbers* (1751) and continuing through the social experiments of the 1980s by the National Institute of Justice. Throughout his methodology, Sherman continues to emphasize his hypothesis about the usefulness of experimental criminology, along with how experiments have also been hidden in the shadows of analytic criminology throughout history.

### 5. Is this a qualitative study or quantitative study?

- To determine whether a study is qualitative or quantitative, you must look at the results. Is Sherman using numbers to support his hypothesis (quantitative), or is he developing a non-numerical theoretical argument (qualitative)? Because Sherman does not use statistics in this study, we can safely conclude that this is a qualitative study.

### 6. What are the results, and how does the author present the results?

- Because this is a qualitative study, as we earlier determined, Sherman offers the results as a discussion of his findings from the historical analysis. The results may be found in the section titled “Criminology: Analytic, Useful, and Used.” Here, Sherman explains that “the vast majority of published criminology remains analytic and nonexperimental.” He goes on to say that although experimental criminology has been shown to be useful, it has not always been used or has not been used correctly. Because of the misuse of experimental criminology, criminologists have steered toward the safety of analysis rather than experimentation. Therefore, Sherman concludes that “analytic social science still dominates field experiments by 100 to 1 or better in criminology. . . . Future success of the field may depend upon a growing public image based on experimental results.”

### 7. Do you believe that the author/s provided a persuasive argument? Why or why not?

- This answer is ultimately up to the reader, but looking at this article, I believe that it is safe to assume that readers will agree that Sherman offered a persuasive argument. Let us return to his major premise: The advancement of theory may depend on better experimental evidence, but as history has illustrated, the vast majority of criminology remains analytical. Sherman supports this proposition with a historical analysis of the great thinkers of criminology and the absence of experimental research throughout a major portion of history.

### 8. Who is the intended audience of this article?

- A final question useful for the reader deals with the intended audience. As you read the article, ask yourself to whom the author wants to speak. After you read this article, you can see that Sherman is writing for students, professors, criminologists, historians, and criminal justice personnel. The target audience may most easily be identified if you ask yourself, “Who will benefit from reading this article?”

### 9. What does the article add to your knowledge of the subject?

- This answer is best left up to the reader because the question is asking how the article improved your knowledge. However, one way to answer the question is as follows: This article helps the reader to understand that criminology is not just about theoretical construction. Criminology is an analytical and an experimental social science, and to improve the criminal justice system as well as criminal justice policies, more attention needs to be paid to the usefulness of experimental criminology.

### 10. What are the implications for criminal justice policy that can be derived from this article?

- The implications for criminal justice policy can most likely be found in the conclusion or the discussion sections of the article. This article, however, emphasizes the implications throughout the article. From this article, we can derive that crime-prevention programs will improve greatly if they are embedded in well-funded experiment-driven data rather than strictly analytical data. Therefore, it is in the hands of policy makers to fund criminological research and apply the findings in a productive manner to criminal justice policy.

Now that we have gone through the elements of a research article, it is your turn to continue through the text, reading the various articles and answering the same questions. You may find that some articles are easier to follow than others, but do not be dissuaded. Remember that each article will follow the same format: introduction, literature review, methods, results, and discussion. If you have any problems, refer to this introduction for guidance.

## READING /// 1

In this article, Lawrence W. Sherman adds to our knowledge about the history of criminology. His premise is that after a useful beginning in the 18th-century Enlightenment as both an experimental and analytic social science, criminology sank into two centuries of inactivity. Its resurrection in the late 20th-century crime wave successfully returned criminology to the forefront of discovering useful, if not always used, facts about prevailing crime patterns and responses to crime. Criminology's failures of "use" in creating justice more enlightened by knowledge of its effects is linked to the still-limited usefulness of criminology, which lacks a comprehensive body of evidence to guide sanctioning decisions. Yet that knowledge is rapidly growing, with experimental (as distinct from analytic) criminology now more prominent than at any time since Henry Fielding founded criminology and London's first police force. In short, Sherman wants us to put criminology to use by experimenting with different replicable crime control practices using experimental and control groups when possible rather than simply viewing criminology as a theory-testing science.

# The Use and Usefulness of Criminology, 1751–2005

## Enlightened Justice and Its Failures

*Lawrence W. Sherman*

Criminology was born in a crime wave, raised on a crusade against torture and execution, and then hibernated for two centuries of speculation. Awakened by the rising crime rates of the latter twentieth century, most of its scholars chose to pursue analysis over experiment. The twenty-first century now offers more policy-relevant science than ever, even if basic science still occupies center stage. Its prospects for integrating basic and "clinical" science are growing, with more scholars using multiple tools rather than pursuing single-method work. Criminology contributes only a few drops of science in an ocean of decision making, but the number of drops is growing steadily. As experimental criminology provides more comprehensive evidence about responses to crime, the prospects for better basic science—and better policy—will improve accordingly.

### Enlightenment, Criminology, and Justice

The entire history of social science has been shaped by key choices scholars made in that transformative era, choices that are still made today. For criminology more than most disciplines, those Enlightenment choices have had enormous consequences for the use and usefulness of its social science. The most important of these consequences is that justice still remains largely un-Enlightened by empirical evidence about the effects of its actions on public safety and public trust.

Historians may despair at defining a coherent intellectual or philosophical content in the Age of Enlightenment, but one idea seems paramount: "that we understand

**SOURCE:** "The Use and Usefulness of Criminology, 1751–2005: Enlightened Justice and Its Failures," by L. W. Sherman (2005), *The ANNALS of the American Academy of Political and Social Science*, 600(1), 115–135. © 2005 by SAGE Publications, Inc.

nature and man best through the use of our natural faculties” (May, 1976, xiv) by systematic empirical methods rather than through ideology, abstract reasoning, common sense, or claims of divine principles made by competing religious authorities. Kant, in contrast, stressed the receiving end of empirical science in his definition of Enlightenment: the time when human beings regained the courage to “use one’s own mind without another’s guidance” (Gay, 1969, 384).

Rather than becoming *experimental* in method, social science became primarily *analytic*. This distinction between experimental manipulation of some aspect of social behavior versus detached (if systematic) observation of behavioral patterns is crucial to all social science (even though not all questions for social science offer a realistic potential for experiment). The decision to cast social science primarily in the role of critic rather than of inventor, has had lasting consequences for the enterprise, especially for the credibility of its conclusions. There may be nothing so practical as a good theory, but it is hard to visibly—or convincingly—demonstrate the benefits of social analysis for the reduction of human misery. The absence of “show-and-tell” benefits of analytic social science blurred its boundaries with ideology, philosophy, and even emotion. This problem has plagued analytic social science ever since, with the possible exception of times (like the Progressive Era and the 1960s) when the social order itself was in crisis. As sociologist E. Digby Baltzell (1979) suggested about cities and other social institutions, “as the twig is bent, so grows the tree.” Social science may have been forged in the same kind of salon discussions as natural science, but without some [*sic*] kind of empirical reports from factories, clinics, or farm fields. Social science has thus famously “smelled too much of the lamp” of the library (Gay, 1969). Even when analytic social science has been most often used, it is rarely praised as useful.

That is not to say that theories (with or without evidence) have lacked influence in criminology, or in any social science. The theory of deterrent effects of sanctions was widely used to reduce the severity of punishment long before the theory could be tested with any evidence. The theories of “anomie” and “differential association” were used to plan the 1960s “War on Poverty” without any clear evidence that opportunity structures could be changed. Psychological theories of personality transformation were

used to develop rehabilitation programs in prisons long before any of them were subject to empirical evaluation. Similarly, evidence (without theory) of a high concentration of crime among a small proportion of criminal offenders was used to justify more severe punishment for repeat offenders, also without empirical testing of those policies.

The criminologists’ general preference for analysis over experiment has not been universal in social science. Enlightenment political science was, in an important—if revolutionary—sense, experimental, developing and testing new forms of government soon after they were suggested in print. The Federalist Papers, for example, led directly to the “experiment” of the Bill of Rights.

Perhaps the clearest exception to the dominance of analytic social science was within criminology itself in its very first work during the Enlightenment. The fact that criminologists do not remember it this way says more about its subsequent dominance by analytic methods than about the true history of the field. Criminology was born twice in the eighteenth century, first (and forgotten) as an experimental science and then (remembered) as an analytic one. And though experimental criminology in the Enlightenment had an enormous impact on institutions of justice, it was analytic criminology that was preserved by law professors and twentieth-century scholars as the foundation of the field.

The history of criminology thus provides an experimental test of this hypothesis about analytic versus experimental social science: *that social science has been most useful, if not most used, when it has been most experimental, with visibly demonstrable benefits (or harm avoidance) from new inventions.* The evidence for this claim in eighteenth-century criminology is echoed by the facts of criminology in the twentieth century. In both centuries, the fraternal twins of analysis and experiment pursued different pathways through life, while communicating closely with each other. One twin was critical, the other imaginative; one systematically observational, the other actively experimental; one detached with its integrity intact, the other engaged with its integrity under threat. Both twins needed each other to advance their mutual field of inquiry. But, it has been experiments in every age that made criminology most useful, as measured by unbiased estimates of the effects of various responses to crime.

The greatest disappointment across these centuries has been the limited usefulness of experimental criminology in achieving “geometric precision” (Beccaria, 1764/1963) in the pursuit of “Enlightened Justice,” defined as “the administration of sanctions under criminal law guided by (1) inviolate principles protecting human rights of suspects and convicts while seeking (2) consequences reducing human misery, through means known from (3) unbiased empirical evidence of what works best” (Sherman et al. 2005). While some progress has been made, most justice remains unencumbered by empirical evidence on its effects. To understand why this disappointment persists amid great success, we must begin with the Enlightenment itself.

## Inventing Criminology: Fielding, Beccaria, and Bentham

The standard account of the origin of criminology locates it as a branch of moral philosophy: part of an aristocratic crusade against torture, the death penalty, and arbitrary punishment, fought with reason, rhetoric, and analysis. This account is true, but incomplete. Criminology’s forgotten beginnings preceded Cesare Beccaria’s famous 1764 essay in the form of Henry Fielding’s 1753 experiments with justice in London. Inventing the modern institutions of a salaried police force and prosecutors, of crime reporting, crime records, employee background investigations, liquor licensing, and social welfare policies as crime-prevention strategies, Fielding provided the viable preventive alternatives to the cruel excesses of retribution that Beccaria denounced—before Beccaria ever published a word.

The standard account hails a treatise on “the science of justice” (Gay, 1969, p. 440) that was based on Beccaria’s occasional visits to courts and prisons, followed by many discussions in a salon. The present alternative account cites a far less famous treatise based on more than a thousand days of Fielding conducting trials and sentencing convicts in the world’s (then) largest city, supplemented by his on-site inspections of tenements, gin joints, brothels, and public hangings. The standard account thus chooses a criminology of analytic detachment over a criminology of clinical engagement.

The standard account in twentieth-century criminology textbooks traced the origin of the field to this “classical school” of criminal law and criminology, with Cesare Beccaria’s (1738–1794) treatise *On Crimes and Punishments* (1764) as the first treatise in scientific criminology. (Beccaria is also given credit [incorrectly], even by Enlightenment scholars, for first proposing that utility be measured by “the greatest happiness divided among the greatest number”—which Frances Hutcheson, a mentor to Adam Smith, had published in Glasgow in 1725 before Beccaria was born [Buchan, 2003, pp. 68–71]). Beccaria, and later Bentham, contributed the central claims of the deterrence hypothesis on which almost all systems of criminal law now rely: that punishment is more likely to prevent future crime to the extent that it is certain, swift, and proportionate to the offense (Beccaria) or more costly than the benefit derived from the offense (Bentham).

### Fielding

This standard account of Beccaria as the *first* criminologist is, on the evidence, simply wrong. Criminology did not begin in a Milanese salon among the group of aristocrats who helped Beccaria formulate and publish his epigrams, but more than a decade earlier in a London magistrate’s courtroom full of gin-soaked robbery defendants. The first social scientist of crime to publish in the English—and perhaps any—language was Henry Fielding, Esq. (1707–1754). Fielding was appointed by the government as magistrate at the Bow Street Court in London. His years on that bench, supplemented by his visits to the homes of London labor and London poor, provided him with ample qualitative data for his 1751 treatise titled *An enquiry into the causes of the late increase of robbers*.

Fielding’s treatise is a remarkable analysis of what would today be called the “environmental criminology” of robbery. Focused on the reasons for a crime wave and the policy alternatives to hanging as the only means of combating crime, Fielding singles out the wave of “that poison called gin” that hit mid-century London like crack hit New York in the 1980s. He theorizes that a drastic price increase (or tax) would make gin too expensive for most people to consume, thereby reducing violent crime. He also proposes more regulation of gambling, based on his

interviews with arrested robbers who said they had to rob to pay their gambling debts. Observing the large numbers of poor and homeless people committing crime, he suggests a wider “safety net” of free housing and food. His emphasis is clearly on prevention without punishment as the best policy approach to crime reduction.

Fielding then goes on to document the failures of punishment in three ways. First, the system of compulsory “voluntary policing” by each citizen imposed after the Norman Conquest had become useless: “what is the business of every man is the business of no man.” Second, the contemporary system of requiring crime victims to prosecute their own cases (or hire a lawyer at their own expense) was failing to bring many identified offenders to justice. Third, witnesses were intimidated and often unwilling to provide evidence needed for conviction. All this leads him to hint at, but not spell out, a modern system of “socialized” justice in which the state rather than crime victims, pays for police to investigate and catch criminals, prosecutors to bring evidence to court, and even support for witnesses and crime victims.

His chance to present his new “invention” to the government came two years after he published his treatise on robbery. In August 1753, five different robbery-murders were committed in London in one week. An impatient cabinet secretary summoned Fielding twice from his sickbed and asked him to propose a plan for stopping the murders. In four days, Fielding submitted a “grant proposal” for an experiment in policing that would cost £600 (about £70,000 or \$140,000 in current value). The purpose of the money was to retain, on salary, the band of detectives Fielding worked with, and to pay a reward to informants who would provide evidence against the murderers.

Within two weeks, the robberies stopped, and for two months not one murder or robbery was reported in Westminster (Fielding, 1755/1964, pp. 191–93). Fielding managed to obtain a “no-cost extension” to the grant, which kept the detectives on salary for several years. After Henry’s death, his brother John obtained new funding so that the small team of “Bow Street Runners” stayed in operation until the foundation of the much larger—and uniformed—Metropolitan Police in 1829.

The birth of the Bow Street Runners was a turning point in the English paradigm of justice. The crime wave accompanying the penny-a-quart gin epidemic of the

mid-eighteenth century had demonstrated the failure of relying solely on the severity of punishment, so excessive that many juries refused to convict people who were clearly guilty of offenses punishable by death—such as shoplifting. As Bentham would later write, there was good reason to think that the certainty of punishment was too low for crime to be deterrable. As Fielding said in his treatise on robbery, “The utmost severity to offenders [will not] be justifiable unless we take every possible method of preventing the offence.” Fielding was not the only inventor to propose the idea of a salaried police force to patrol and arrest criminals, but he was the first to conduct an experiment testing that invention. While Fielding’s police experiment would take decades to be judged successful (seventy-six years for the “Bobbies” to be founded at Scotland Yard in 1829), the role of experimental evidence proved central to changing the paradigm of practice.

## Beccaria

In sharp contrast, Beccaria had no clinical practice with offenders; nor was he ever asked to stop a crime wave. Instead, he took aim at a wave of torture and execution that characterized European justice. Arguing the same ideology of prevention as Fielding (whose treatise he did not cite), Beccaria urged abolition of torture, the death penalty, and secret trials. Within two centuries, almost all Europe had adopted his proposals. While many other causes of that result can be cited, there is clear evidence of Beccaria’s 1764 treatise creating a “tipping point” of public opinion on justice.

What Beccaria did not do, however, was to supply a shred of scientific evidence in support of his theories of the deterrent effects of non-capital penalties proportionate to the severity of the offense. Nor did he state his theories in a clearly falsifiable way, as Fielding had done. In his method, Beccaria varies little from law professors or judges (then and now) who argue a blend of opinion and factual assumptions they find reasonable, deeming it enlightened truth *ipse dixit* (“because I say so myself”). What he lacked by the light of systematic analysis of data, he made up for by eloquence and “stickiness” of his aphorisms. Criminology by slogan may be more readily communicated than criminology experiment in terms of fame. But, it is worth noting that the founding of the



British police appears much more directly linked to Fielding's experiments than the steady abolition of the death penalty was linked to Beccaria's book.

## Bentham

Beccaria, the moral-empirical theorist, stands in sharp contrast to his fellow Utilitarian Jeremy Bentham, who devoted twelve years of his life (and some £10,000) to an invention in prison administration. Working from a book he wrote on a "Panopticon" design for punishment by incarceration (rather than hanging), Bentham successfully lobbied for a 1794 law authorizing such a prison to be built. He was later promised a contract to build and manage such a prison, but landed interests opposed his use of the site he had selected. We can classify Bentham as an experimentalist on the grounds that he invested much of his life in "trying" as well as thinking. Even though he did not build the prison he designed, similar prisons (for better or worse) were built in the United States and elsewhere. Prison design may justifiably be classified as a form of invention and experimental criminology, as distinct from the analytic social science approach Bentham used in his writings—thereby making him as "integrated" as Fielding in terms of theory and practice. The demise of Bentham's plans during the Napoleonic Wars marked the end of an era in criminology, just as the Enlightenment itself went into retreat after the French Revolution and the rise of Napoleon. By 1815, experimentalism in criminology was in hibernation, along with most of criminology itself, not to stir until the 1920s or spring fully to life until the 1960s.

## Two Torpid Centuries—With Exceptions

Analytic criminology continued to develop slowly even while experimental criminology slumbered deeply, but neither had any demonstrable utility to the societies that fostered them. One major development was the idea of involuntary causes of crime "determined" by either social (Quetelet, 1835) or biological (Lombroso, 1876/1918) factors that called into question the legal doctrines of criminal responsibility. The empirical evidence for these claims, however, was weak (and in Lombroso's case wrong), leaving the theoretical approach to criminology

largely unused until President Johnson's War on Poverty in the 1960s.

## Cambridge-Somerville

The first fully randomized controlled trial in American criminology appears to have been the Cambridge-Somerville experiment, launched in Massachusetts in the 1930s by Dr. Richard Clark Cabot. This project offered high-risk young males "friendly guidance and social support, healthful activities after school, tutoring when necessary, and medical assistance as needed" (McCord, 2001). It also included a long-term "big brother" mentoring relationship that was abruptly terminated in most cases during World War II. While the long-term effects of the program would not be known until the 1970s, the critical importance of the experimental design was recognized at the outset. It was for that reason that the outcomes test could reach its startling conclusion: "The results showed that as compared with members of the control group, those who had been in the treatment program were more likely to have been convicted for crimes indexed by the Federal Bureau of Investigation as serious street crimes; they had died an average of five years younger; and they were more likely to have received a medical diagnosis as alcoholic, schizophrenic, or manic-depressive" (McCord 2001, p. 188). In short, the boys offered the program would have been far better off if they had been "deprived" of the program services in the randomly assigned control group.

No study in the history of criminology has ever demonstrated such clear, unintended, criminogenic effects of a program intended to prevent crime. To this day, it is "exhibit A" in discussions with legislators, students, and others skeptical of the value of evaluating government programs of any sort, let alone crime-prevention programs. Its early reports in the 1950s also set the stage for a renaissance in experimental criminology, independently of the growth of analytic criminology.

## Renaissance: 1950–1982

Amidst growing concern about juvenile delinquency, the Eisenhower administration provided the first federal funding for research on delinquency prevention. Many of the studies funded in that era, with both federal and nonfederal support, adopted experimental designs.

What follows is merely a highlighting of the renaissance of experimental criminology in the long twilight of the FDR coalition prior to the advent of the Reagan revolution.

## Martinson and Wilson

While experimental evidence was on the rise in policing, it was on the decline in corrections. The comprehensive review of rehabilitation strategies undertaken by Lipton, Martinson, and Wilks (1975) initially focused on the internal validity of the research designs in rehabilitation experiments within prisons. Concluding that these designs were too weak to offer unbiased estimates of treatment effects, the authors essentially said “we don’t know” what works to rehabilitate criminals. In a series of less scientific and more popular publications, the summary of the study was transformed into saying that there is no evidence that criminals can be rehabilitated. Even the title “What Works” was widely repeated in 1975 by word of mouth as “nothing works.”

The Martinson review soon became the basis for a major change in correctional policies. While the per capita rates of incarceration had been dropping throughout the 1960s and early 1970s, the trend was rapidly reversed after 1975 (Ruth & Reitz, 2003). Coinciding with the publication of Wilson’s (1975) first edition of *Thinking About Crime*, the Martinson review arguably helped fuel a sea change from treating criminals as victims of society to treating society as the victim of criminals. That, in turn, may have helped to feed a three-decade increase in prisoners (Laub, 2004) to more than 2.2 million, the highest incarceration rate in the world.

## Warp Speed: 1982–2005

### Stewart

In September 1982, a former Oakland Police captain named James K. Stewart was appointed director of the National Institute of Justice (NIJ). Formerly a White House Fellow who had attended a National Academy of Sciences discussion of the work of NIJ, Stewart had been convinced by James Q. Wilson and others that NIJ needed to invest more of its budget in experimental criminology.

He acted immediately by canceling existing plans to award many research grants for analytic criminology, transferring the funds to support experimental work. This work included experiments in policing, probation, drug market disruption, drunk-driving sentences, investigative practices, and shoplifting arrests.

### Schools

The 1980s also witnessed the expansion of experimental criminology into the many school-based prevention programs. Extensive experimental and quasi-experimental evidence on their effects—good and bad—has now been published. In one test, for example, a popular peer guidance group that was found effective as an alternative to incarceration was found to increase crime in a high school setting. Gottfredson (1987) found that high-risk students who were not grouped with other high-risk students in high school group discussions did better than those who were.

### Drug courts

The advent of (diversion from prosecution to medically supervised treatments administered by) “drug courts” during the rapid increase in experimental criminology has led to a large and growing volume of tests of drug court effects on recidivism. Perhaps no other innovation in criminal justice has had so many controlled field tests conducted by so many different independent researchers. The compilations of these findings into meta-analyses will shed increasing light on the questions of when, and how, to divert drug-abusing offenders from prison.

### Boot camps

Much the same can be said about boot camps. The major difference is that boot camp evaluations started off as primarily quasi-experimental in their designs (with matched comparisons or worse), but increasing numbers of fully randomized tests have been conducted in recent years (Mitchell, MacKenzie, and Perez, 2005). Many states persist in using boot camps for thousands of offenders, despite fairly consistent evidence that they are no more effective than regular correctional programs.

## Child raising

Criminology has also claimed a major experiment in child raising as one of its own. Beginning at the start of the “warp speed” era, the program of nurse home visits to at-risk first mothers designed by Dr. David Olds and his colleagues (1986) has now been found to have long-term crime-prevention effects. Both mothers and children show these effects, which may be linked to lower levels of child abuse or better anger management practices in child raising.

## Criminology: Analytic, Useful, and Used

This recitation of a selected list of experiments in criminology must be labeled with a consumer warning: *the vast majority of published criminology remains analytic and nonexperimental*. While criminology was attracting funding and students during the period of rising crime of the 1960s to 1990s, criminologists put most of their efforts into the basic science of crime patterns and theories of criminality. Studies of the natural life course of crime among cohorts of males became the central focus of the field, as measured by citation patterns (Wolfgang, Figlio, and Thornberry, 1978). Despite standing concerns that criminology would be “captured” by governments to become a tool for developing repressive policies, the evidence suggests that the greatest (or largest) generation of criminologists in history captured the field away from policy makers.

The renaissance in experimental criminology therefore addressed very intense debates over many key issues in crime and justice, providing the first unbiased empirical guidance available to inform those debates. That much made criminology increasingly useful, at least potentially. Usefulness alone, of course, does not guarantee that the information will be *used*. Police agencies today do make extensive use of the research on concentrating patrols in crime hot spots, yet they have few repeat offender units, despite two successful tests of the “invention.” Correctional agencies make increasing use of the “what works” literature in the United States and United Kingdom, yet prison populations are still fed by people returned to prison on the unevaluated policy of incarcerating “technical” violators of the conditions of their release (who have

not committed new crimes). Good evidence alone is not enough to change policy in any context. Yet absent good evidence, there is a far greater danger that bad policies will win out. Analytic criminology—well or badly done—poses fewer risks for society than badly done experimental criminology. It is not clear that another descriptive test of differential association theory will have any effect on policy making, unless it is embedded in a program evaluation. But, misleading or biased evidence from poor-quality research designs—or even unreplicated experiments—may well cause the adoption of policies that ultimately prove harmful.

This danger is, in turn, reduced by the lack of influence criminology usually has on policy making or operational decisions. That, in turn, is linked to the absence of clear conclusions about the vast majority of criminal justice policies and decisions. Until experimental criminology can develop a more comprehensive basis of evidence for guiding operations, practitioners are unlikely to develop the habit of checking the literature before making a decision. The possibility of improving the quality of both primary evidence and systematic reviews offers hope for a future in which criminology itself may entail less risk of causing harm.

This is by no means a suggestion that analytic criminology be abandoned; the strength of experimental criminology may depend heavily on the continued advancement of basic (analytic) criminology. Yet the full partnership between the two has yet to be realized. Analytic social science still dominates field experiments by 100 to 1 or better in criminology, just as in any other field of research on human behavior. Future success of the field may depend on a growing public image based on experimental results, just as advances in treatment attract funding for basic science in medicine.

## Conclusion

Theoretical criminology will hold center stage for many years to come. But, as Farrington (2000) has argued, the advancement of theory may depend on better experimental evidence. And that, in turn, may depend on a revival in the federal funding that has recently dropped to its lowest level in four decades. Such a revival may well depend on exciting public interest in the practical value of research, as perhaps only experiments can do.

“Show and tell” is hard to do while it is happening. Yet it is not impossible. Whether anyone ever sees a crime-prevention program delivered, it is at least possible to embed an experimental design into every long-term analytic study of crime in the life course. As Joan McCord (2003) said in her final words to the American Society of Criminology, the era of purely observational criminology should come to an end. Given what we now know about the basic life-course patterns, McCord suggested, “all longitudinal studies should now have experiments embedded within them.”

Doing what McCord proposed would become an experiment *in* social science as well *of* social science. That

experiment is already under way, in a larger sense. Criminology is rapidly becoming more multimethod, as well as multilevel and multitheoretical. Criminology may soon resemble medicine more than economics, with analysts closely integrated with clinical researchers to develop basic science as well as treatment. The integration of diverse forms and levels of knowledge in “consilience” with each other rather than a hegemony of any one approach, is within our grasp. It awaits only a generation of broadly educated criminologists prepared to do many things, or at least prepared to work in collaboration with other people who bring diverse talents to science.

## DISCUSSION QUESTIONS

1. What is the main point of Sherman’s discussion of analytical versus experimental criminology?
2. Why should Fielding rather than Beccaria be considered the father of criminology, according to Sherman?
3. Sherman wants criminology to be integrated with other sciences and become multimethod, multilevel, and multitheoretical. What might be the ideological barriers to such integration?

## READING /// 2

John Paul Wright and Danielle Boisvert make an enthusiastic case for the burgeoning biosocial perspective in criminology. They assert that although criminology has historically maligned biological perspectives despite the scientific rigor of the biological sciences, a growing number of criminologists are incorporating biological, neurological, genetic, and neuropsychological concepts, theories, and methods along with the environmental measures into their research. The authors explore the relevance of biosocial criminology to the parent discipline by focusing on its scientific discovery, advanced methodologies, increased theoretical specificity, acknowledgement and illumination of individual differences, and promise of effective policy based on knowledge of human development. They claim that biosocial criminology is a potential fruitful paradigm shift in the scientific study of crime.

# What Biosocial Criminology Offers Criminology

*John Paul Wright and Danielle Boisvert*

“New methods, new questions, more research, better careers.” Such an advertisement could read as enticing scholars to join the ranks of a new

research paradigm. Of course, scholars are rarely moved by such grandiose statements, and to date, no paradigm has actively recruited researchers. But, in thinking about what

**SOURCE:** “What Biosocial Criminology Offers Criminology,” by John Paul Wright and Danielle Boisvert. *Criminal Justice and Behavior*, 36(11), 1128–1240. © 2009 International Association for Correctional and Forensic Psychology.

biosocial criminology has to offer criminology, we were drawn immediately to these possibilities. Imagine criminology not wholly reliant on secondary data; on survey methodology; or on the multitude of tired, worn-out theories. Imagine criminology where a reliance on abstraction was replaced by a reliance on the measurement of directly observable phenomena. Imagine criminology where replication was valued and where research findings were translated into practical, concrete policy applications. Imagine criminology as a truly interdisciplinary science.

Sound impossible? Given the institutionalization of many of our theories and methods, it may be, but it does not have to be so. Paradigm shifts occur when a critical mass of scholars alter their thinking (Kuhn, 1962). These shifts can emerge out of recent discoveries, but more frequently emerge when scholars, recognizing the limitations and contradictions of the current paradigm, become attracted to the excitement of ideas offered by a new or evolving paradigm. We believe the time is ripe for a paradigm shift in criminology and, hence, take the unusual step of publically recruiting criminologists into a different way of thinking about research into criminal behavior. In so doing, we run the risk of alienating those whose ideas we disagree with, those firmly grounded in traditional disciplinary perspectives, and those who remain uninformed about biology. These are the risks, also outlined by Kuhn (1962), that disciplines must undertake if they are to remain intellectually vibrant and relevant. It is time, at least in our minds, to create the tension necessary to stimulate a broader debate concerning the vibrancy, legitimacy, and relevancy of traditional criminology.

So, what does a biosocial paradigm offer criminology? In the following pages, we enumerate several offerings associated with biosocial criminology, including intellectual excitement, new methodological techniques, increased theoretical specificity, a renewed look at individual differences, and suggestions for effective policies based on the scientific research on healthy human development.

## DISCOVERY IS EXCITING

The first offering, and likely the most important, is intellectual excitement. As the name implies, the biosocial paradigm integrates, where appropriate, scientific findings from various hard sciences that fall under the broader umbrella

of biology. These sciences may include neurology, psychiatry, genetics, and evolutionary psychology, to name only a few. Anyone who has read contemporary biological and genetic accounts of human behavior understands that a revolution in science is occurring in these fields. Almost daily, new discoveries are reported, discoveries in the truest sense of the word, linking some aspect of human biology to behavior. Sophisticated imaging devices, genome-wide scans of genetic architecture, and highly precise measurements of physiological functioning have shed new light on human traits, capacities, and behaviors. It is exciting to be part of a scientific movement and equally exciting to discover aspects of human functioning.

We maintain that this aspect of biosocial research is one of the most important, even if it is one of the least scientific, reasons to advance a biosocial paradigm. From a utilitarian viewpoint, scientific careers are built around publishing research. Criminology is no different. Yet, it is our view and the view of other criminologists that too much of criminology is derivative if not entirely redundant. On a personal level, it is difficult to remain excited about publishing another study on an outdated theory, or reading yet another study on Hirschi's (1969) four social bonds, or reading another debate on the causal nature of delinquent peer networks. Whereas the reasons are likely numerous, we suggest that few scholars remain active researchers over the courses of their careers in part because standard sociological criminology is boring.

Scholars, by their very nature, love puzzles. They love to figure out complex relationships and discover how processes work. Biosocial criminology provides a new and unique set of puzzles and thus can encourage new and exciting ideas. Take, for example, research on maternal smoking and its association with antisocial behavior. Criminologists have known for some time that there is a significant link between the two (Brennan, Grekin, & Mednick, 1999; Fergusson, Woodward, & Horwood, 1998; Rasanen et al., 1999). However, studies also clearly reveal that not all fetuses are uniformly harmed by exposure to cigarette smoke (Pratt, McGloin, & Fearn, 2006). How can this be?

Because the biosocial paradigm incorporates findings and methodologies from a number of sciences, answers to these puzzles emerge. A recent study by Maughan, Taylor, Caspi, and Moffitt (2004) found that approximately 50% of the effects of maternal cigarette smoking during pregnancy on child conduct problems at ages 5 and 7 years old were

accounted for by shared genetic factors. Not surprisingly, antisocial women were far more likely to smoke during pregnancy and were significantly more likely to produce antisocial offspring (Gibson & Tibbetts, 1998). The deleterious effect of maternal cigarette smoking, however, was not fully accounted for by shared genetic factors, suggesting that in utero exposure to cigarette smoke plays some type of causal role in compounding the risk for future misbehavior of the child (Pratt et al., 2006). Further studies, however, have revealed that genes that control the metabolism of drugs, genes that control the removal of foreign particles from our bodies (glutathione S transferase), and genes involved in neurotransmission strongly modify the effects of in utero exposure to cigarette smoke (Wakschlag et al., 2009).

Part of solving the puzzle involved the incorporation of findings from the genetic sciences. Genetic variation makes children either more or less at risk when exposed to maternal cigarette smoke. Individuals with allelic combinations considered to be risk alleles and who are exposed in utero to cigarette smoke are more strongly affected than are those without the risk alleles (Kahn, Khoury, Nichols, & Lanphear, 2003). In part because of the concilience of knowledge, research on the link between maternal cigarette smoking and offspring development has advanced rapidly. In short order, it may be possible to identify mothers and their offspring most at risk for the deleterious effects associated with cigarette smoking and to intervene to help both. Had these researchers not been versed in biology, human development, and sociology, their questions, methods, and findings may not have borne fruit.

## BIOSOCIAL CRIMINOLOGY INCORPORATES ADVANCED METHODOLOGIES

Standard social scientific methodologies (SSSM) are the norm in criminological research. As applied to the study of families, SSSMs usually involve assessing one child per family and one parent—almost always the mother. Criminologists then correlate the information garnered from these two sources, inferring similar patterns of covariances between other children and their parents within the home. This methodology has led to broad, sweeping statements about the effects parents have on their children. Parents, for example, who are “warm and restrictive” are said to produce children who are better behaved

and who have fewer psychological problems than parents who are “authoritarian” or “permissive” (Patterson, 1976).

Unfortunately, when other children within the same home are examined, the validity of these broad statements falls flat. Further research has found tremendous behavioral variability between children within the same home exposed to the same parenting styles. Constants, of course, cannot predict variability. Clearly, something is amiss with SSSMs. That “something” is genes. Numerous behavioral genetic studies have shown that aggressive behaviors are highly heritable, with heritability estimates hovering between 50% and 85% (Coccaro, Bergeman, Kavoussi, & Seroczynski, 1997; Dionne, Tremblay, Boivin, Laplante, & Perusse, 2003; Eley, Lichtenstein, & Stevenson, 1999; Finkel & McGue, 1997; Hadaka, Rudiger, Neale, Heath, & Todd, 2000; Vernon, McCarthy, Johnson, Jang, & Harris, 1999). Research designs that exclude genetic influences cannot recognize the substantial across-individual variability within homes and thus may have led to many erroneous conclusions about the influence parents have on the development of their children.

No research design is perfect, but designs that systematically skew results should be called into question. In this illustration, we point out that these designs systematically exclude the potential influence of genetic factors. A common type of research design in behavioral genetics, however, involves the use of twins and is referred to as the classical twin design. This type of design allows for the estimation of environmental and genetic influences and has been employed extensively in a variety of disciplines.

Behavioral genetic methodologies capitalize on variation within and across genetically related individuals. Because of this, behavioral genetic designs allow for the estimation of genetic, shared, and nonshared environmental effects. Genetic influences are reflected in heritability estimates. These estimates quantify the degree to which variation in a trait or behavior is accounted for by genetic factors. Hundreds of studies have revealed that genetic influences are omnipotent—that is, genes are entangled in virtually every aspect of human development and behavior (Plomin, 1990).

Shared environmental influences are those that make children growing up in the same family more alike. These types of influences, such as socioeconomic status and neighborhood conditions, are believed to exert the same effect on children living within the home. These effects

promote behavioral similarities between individuals within families while highlighting the differences between individuals across families. Nonshared environmental influences include experiences and life events unique to each individual within the home, such as different peer networks, different extracurricular activities, and different parental treatment. These influences make individuals from the same home different from one another (Neale & Cardon, 1992). Research has shown that nonshared environmental factors play a more important role in explaining variation in antisocial and criminal behaviors compared to shared experiences between siblings. A meta-analysis conducted by Rhee and Waldman (2002) looked at 51 twin and adoption studies to estimate the degree to which genetic and environmental factors influence antisocial behavior. Their results revealed that the 42%, 16%, and 42% of the variance in antisocial behavior was attributed to genetics (i.e., additive and nonadditive), shared environmental factors, and nonshared environmental factors, respectively. Although measurement error is tangled up in the estimate of nonshared environment (Eaves, 1982; Plomin, DeFries, McClearn, & Rutter, 1997), it is apparent that nonshared experiences have a larger impact on behavior compared to shared environmental factors. As Plomin (1990) stated, small differences in experiences can have large effects on behavior.

Behavioral genetic research designs are one way to study antisocial behavior from a biosocial perspective. Another research technique often used in biosocial criminology involves the examination of specific genetic and environmental conditions that interact to increase the likelihood of antisocial behavioral expression. Biosocial criminologists are often interested in examining how genes interact with an environment to produce behavior. Let's go back to our example of physical maltreatment and later aggressive behaviors. Whereas research shows a correlation between these two variables, not all children who have been abused go on to display antisocial behaviors later in life (Stevenson, 1999). Why do some individuals who experience maltreatment grow up to display antisocial behaviors and others do not? Biosocial criminology is the perfect framework in which to answer these types of questions.

One of the first criminological studies to provide evidence for gene-environment interactions was published by Caspi and his colleagues (2002). They found that

a functional polymorphism in the metabolizing enzyme monoamine oxidase A (MAOA) interacted with physical maltreatment to produce antisocial behavior. Specifically, individuals with low MAOA activity who experienced maltreatment were more likely to exhibit antisocial behaviors compared to those individuals with high levels of MAOA activity who experienced maltreatment. Their study provided graphic evidence that experience, such as physical maltreatment, is genetically modified. With the continued methodological advancements made in behavioral genetics, several new and exciting research questions on the effects of genes and environment on antisocial behavior are waiting to be answered.

## BIOSOCIAL CRIMINOLOGY OFFERS INCREASED THEORETICAL SPECIFICITY

Students of criminal conduct face a daunting task. Unfortunately, we speak not of understanding the etiology of antisocial behavior, but of the wading through of the multiple theories of crime. There are control, strain, conflict, feminist, peacemaking, radical, structural, process, integrated, life-course, learning, rational choice, and even convict theories of criminal behavior—to name just a few. Indeed, a quick perusal of several introductory criminology textbooks documents easily the coverage of 60 or more theories of criminal conduct (Lilly, Cullen, & Ball, 2007). With this much theoretical baggage, it is difficult to make an argument that the science of criminology is advancing in any clear direction.

Walsh and Ellis (2004) argued that theoretical excess is an indicator of several disciplinary problems. First, theoretical excess is a sign of an immature discipline—that is, a discipline that has not gained enough scientific data to make firm statements as to underlying etiological processes. Criminology, for example, remains unable to explain its core correlates of crime, such as sex and age. Many of the explanations for these correlates, especially being male, border on the ludicrous. Second, excessive, fragmented theorizing tends to emerge when the disciplined thinking required of scientific pursuit has not been valued or prioritized. Without scientific reasoning as the core value, “theoretical imagination” is allowed to run amok. This has clearly been the case with several “perspectives” that have conjured up explanations of criminal

involvement that simply cannot be true. Feminist and postmodern “perspectives,” for example, have pushed criminology even further from strict scientific reasoning, and their advocates have trumpeted this with adulation. Finally, a quasi-science can say little about how to effectively reduce or to manage antisocial conduct, and what little it can say has to be suspect.

Biosocial criminology, if embraced, offers a paradigm shift that could fundamentally alter the study of criminal conduct. The focus is not on theory construction, but on the accumulation of reproducible knowledge through systematic hypothesis testing. The scientific enterprise typically involves rejecting unsupported hypotheses and the theories that bind them. Moreover, repeated tests of core postulates under varying conditions allows for the construction, over time, of a body of knowledge. Certainly, as patterns emerge, theories are likely to develop and the overall way that researchers study criminal behavior would undoubtedly change. This could be accomplished in at least four ways: First, because biosocial criminology draws on a large body of advanced, technical knowledge about human genetics and biological processes, it could provide the benchmarks necessary to finally reject theories that deviate from known mechanical processes. As an illustration, we again point to the incontrovertible evidence linking male sex status with a range of externalizing symptoms and disorders. Research in sex differences in brain functioning and structure, in hormone regulation, and in neurotransmission has uncovered a range of sex difference that have the potential to explain differential behavioral adaptations, cognitive orientations and abilities, and emotional dynamics not shared equally between males and females (Geary, 1998; Rhodes & Rubin, 1999). At a minimum, these findings should dispel the myth that males and females are the same. Beyond the obvious, however, it is exactly these types of “hard science” findings that could be used as a benchmark for increasing theoretical validity.

Second, and just as important, criminological theories that currently enjoy a modicum of empirical support could be better specified if they incorporated knowledge from the biological sciences (Walsh, 2002; Wright & Beaver, 2005). Obvious examples include Gottfredson and Hirschi’s (1990) theory of low self-control, Akers’s (1985) social learning theory, and Agnew’s (1992) general strain theory. Each of these theories could benefit from being

linked the underlying core theoretical constructs—self control, learning, and responsivity to stress and strain—to their obvious biological substrates. Self-control, for example, is known to be housed in the frontal cortex of the brain and to be part of a larger constellation of “executive functions.” Learning, by definition, is a biochemical process involving the storage and retrieval of information encoded throughout the brain, but especially in the hippocampus. And individually variable responses to stress and negative life events have been studied meticulously through animal models, through experimental designs, and through complex brain imaging.

Third, a biosocial paradigm offers researchers the ability to fill in the gaps. Take, for example, studies that reveal a net reduction in antisocial behavior after criminally involved males marry conforming females (Laub, Nagin, & Sampson, 1998; Warr, 1998). The causal mechanisms responsible for the reduction in male offending have been subject to much speculation and depend wholly on the theoretical orientation of the researchers. The marriage–crime reduction effect has been blamed on reductions in peer associations (Warr, 1998) and reductions in criminal opportunities (Laub & Sampson, 2003), or conversely it has been blamed on increases in social support (Cullen, 1994) and increases in informal social control (Laub et al., 1998; Sampson & Laub, 1993).

The biosocial paradigm helps to answer important gaps in these studies. The fact that most criminal males do not marry prosocial females when they do marry earns a mere footnote in most studies, but it is revealing from a biosocial framework. Assortative mating and sexual selection have strong evolutionary overtones and have been subject to numerous cross-cultural investigations. First, assortative mating means that rather than randomly choosing a mate, individuals tend to choose sexual partners that are similar to themselves on a variety of physical, cognitive, and personality traits. This is also referred to as *active gene–environment interactions*, and studies have found that individuals tend to self-select themselves into particular environments. For example, antisocial males tend to gravitate toward other antisocial females and vice versa (Caspi & Herbener, 1990; Quinton, Pickles, Maughan, & Rutter, 1993), thereby promoting the expression of their antisocial behaviors. Second, there is a special form of natural selection, referred to as *sexual selection*, that ensures the survival of certain



characteristics over time. As we have already pointed out, men commit more crimes, especially violent acts, than women do. From an evolutionary perspective, female mating preferences may help to explain this relationship. According to Ellis's (2003) neuroandrogenic evolutionary theory, women are more likely to mate with men who are able to compete for resources for them and their children. For males, this has the effect of encouraging them to aggressively compete with other males to procure resources and increase their chances of being chosen by a female as a sexual partner. This aggressive form of competitiveness is then passed on in future generations, thereby increasing its prevalence in the male population.

Similarly, behavioral genetic research has revealed moderate to substantial genetic influences on the likelihood to marry. A recent study by Johnson, McGue, Krueger, and Bouchard (2004) examined the genetic influence on marriage and found heritability estimates of 0.72 and 0.66 for women and men, respectively. Molecular genetic studies have found that specific genes interact with marriage to further reduce offending. For example, Beaver et al. (2008a) found that interactions between marriage and three genetic polymorphisms (i.e., DRD2, DRD4, and MAO) predicted desistance from delinquent activities in a sample of men. Moreover, marriage to a nondeviant spouse has also been linked to reductions in male testosterone levels and has been found to reduce genetic proclivities toward antisocial behavior (Booth & Dabbs, 1993). In this illustration, the biosocial paradigm replaces speculation about social processes with knowledge of how social events differentially affect human males.

Finally, many theories of criminal conduct make broad, sweeping statements about the causes of crime. This is in part because of a focus on aggregate or between-group differences. As an illustration, consider research on neighborhoods, a concept full of definitional ambiguity. Theoretically, neighborhoods affect criminal behavior because they structure exposure to criminogenic risk factors. Exactly how these processes function and which variables are prioritized over others is a matter of theoretical detail not necessary here. What is important is the idea that some neighborhoods contain more risk factors than others do and hence have higher crime rates. Although this level of explanation may be suitable for aggregate studies of crime rates, inevitably the question to

be asked next is why some individuals in those neighborhoods, indeed maybe even a majority of individuals, who were exposed to the full battery of risk factors, did not turn to crime.

A biosocial paradigm that vertically integrates knowledge from progressively broader levels can replace this theoretical silence. A core problem with between-neighborhood, between-family, or between-class studies is that they overlook human variation. In biosocial criminology, however, human variation in response to similar environmental stimuli is the rule, not the exception. Known as *reactive gene–environment interactions*, individuals exposed to the same environment, indeed the same environmental event, cognitively process the event differentially, emotionally process the event differentially, and store information from the event differentially. Say, for example, two individuals are bumped into at a party; one interprets the event as an accident and reacts with understanding, but the other perceives the act as intentional and disrespectful and subsequently reacts with aggression. It is the story of the three blind men touching different parts of the same elephant and coming to varying conclusions retold.

Brain imaging research into empathic responses in conduct disorder (CD) adolescents is revealing in this regard. Decety and his colleagues (2008) displayed visual images of individuals in painful and nonpainful situations to CD youth and to a matched control group. They also displayed images of painful situations caused by another person or that were accidental. Functional magnetic resonance imaging (fMRI) was used to measure regional brain activation. In each test, the brains of CD youth responded differently than the brains of control youth. When viewing someone in pain, regions in the brains of CD youth associated with pleasure were activated, and when viewing images of a person whose pain was intentionally inflicted by another person, the brains of CD youth again showed substantially different patterns of activation compared to controls. When pain was intentionally inflicted, strong connections between the amygdala and the prefrontal cortex materialized in control youth, indicative of a normative empathic response. These connections did not materialize in CD youth. The moral of the study is that CD youth neurologically respond in an atypical way to images of others in pain and to images of others in pain intentionally inflicted by another.

Going back to the neighborhood example, it is clear from ethnographic evidence that certain people in “bad” neighborhoods are attracted to the violence offered by street culture. These individuals report little empathy for their victims, relish the control and torment they exert over others, and generally lead highly chaotic and highly antisocial lives (Copes, Hochstetler, & Williams, 2008; Wright & Decker, 1997). Still, others in the same neighborhood are repulsed by the violence and by the human degradation they encounter (Anderson, 1999; Shover, 1996). Incorporating an understanding of Decety et al.’s (2008) research specifically, and biosocial research generally, helps to explain varying reactions to human suffering and better specifies how contextual events differentially affect individuals in high-crime neighborhoods.

## BIOSOCIAL CRIMINOLOGY ACKNOWLEDGES AND ILLUMINATES INDIVIDUAL DIFFERENCES

Scholars who study intervention programs consistently emphasize the importance of the black box of correctional programming (Latessa, Cullen, & Gendreau, 2002). The *black box* refers to those intra-intervention program variables that tend to have substantial effects on the overall operation of the program and, ultimately, on intervention outcomes. These influences, such as the quality and motivation of staff and the actual amount of time dedicated to service delivery, are at the heart of program integrity and appear to be the primary stumbling blocks to cross-site reproduction of effective programs (Latessa & Holsinger, 1998; Matthews, Hubbard, & Latessa, 2001).

To carry the analogy forward, purely social theories of criminal behavior frequently do not account for, or in most cases even recognize, the black box within individuals (DeLisi, Wright, Vaughn, & Beaver, 2009). This has been a matter of much debate in sociology where critics have rightfully pointed out that many social theories rely on an oversocialized conception of man (Wrong, 1961). Criminology, with its roots firmly embedded in sociology, suffers many of the same fundamental problems. Many criminologists still, despite tremendous evidence to the contrary, deny the pathology of offenders and simply overlook or ignore the individual characteristics that

differentiate offenders from nonoffenders. This naturally leads to questionable policy initiatives, such as deincarceration (Clear, 2007).

Looking at the data, however, is revealing. One of the most consistent and least recognized findings in criminology has to do with the distribution of criminal behavior across individuals. In dataset after dataset, the distribution of involvement in serious criminal behavior is skewed heavily to the right. This distribution conveys important information. First, the distribution of offending shows that the vast majority of individuals, usually more than 90% of a sample, report never engaging in a serious criminal act. Given this, it seems reasonable to believe that the base rate for serious offending in the population approximates zero. In other words, prosocial behavior, or at least the absence of criminal behavior, is normative.

Second, the distribution of offending reveals that individuals who depart substantially from zero are rare, but account for the majority of all part one and part two index offenses (DeLisi, 2005; Wolfgang, Figlio, & Sellin, 1972). Data from the Cincinnati Violence Reduction Initiative, a project modeled after the well-known Boston Gun Project, is instructive. Engel and her colleagues (2008), with the assistance of criminal justice professionals, identified 748 highly active offenders. Their analyses of this group found that less than 1% of the population of citizens living in Cincinnati were responsible for 74% of all homicides, that the average active offender generated 35 juvenile and adult charges, that the average active offender had 7.4 felony arrest charges, that 91% had prior arrests for felony charges, and that one third had 10 or more felony arrest charges. All of these offenders were free on the streets.

Clearly, these individuals depart significantly from normative behavioral trajectories. Aside from their extensive arrest histories, these individuals likely differ in fundamental ways from normal individuals. They are, for example, significantly more likely to have limited impulse control (Grasmick, Tittle, Bursik, & Arneklev, 1993), more likely to have a below-average IQ (Hirschi & Hindelang, 1977), more likely to see the world as a hostile and negative place (Walters, 2006), and more likely to employ a range of criminal thinking errors that justify their behavior and help to maintain their criminal lifestyle (Samerow, 1984). These individual differences and many others have powerful effects on the life-course opportunities of

individuals. Moreover, many of these individual differences have strong genetic underpinnings. Self-control, IQ, and antisocial behaviors, for example, have been found to be some of the most heritable human characteristics studied to date (Beaver, Wright, DeLisi, & Vaughn, 2008b; Plomin & Rende, 1991; Rhee & Waldman, 2002). Other human traits that distinguish offenders from nonoffenders or that distinguish recidivistic offenders from temporally limited offenders have also been found to have substantial genetic influences (Rutter, 2008).

The point is that human differences are at the heart of the biosocial paradigm. Understanding first and foremost the origins of human differences presents criminologists with many research opportunities. Beyond this, understanding how individual differences play out in context—that is, in the daily interactions between people and social institutions—presents many more important questions in need of answers. In essence, relaxing the view of the oversocialized man necessarily draws attention to the distributional aspects of human traits and behaviors and calls for research that incorporates the vertical integration of individual and environmental sources of variance.

## BIOSOCIAL CRIMINOLOGY OFFERS EFFECTIVE POLICY BASED ON KNOWLEDGE OF HUMAN DEVELOPMENT

Criminologists have long bemoaned their limited political and policy influence (Clear, 2007), and many critics of biosocial criminology are quick to assume that policies based on biosocial research would lead to harsh and unsettling intervention techniques. It is our view and that of other biosocial criminologists that the policy recommendations derived from biosocial research have the potential of substantially reducing antisocial behaviors because they are based on the scientific research on healthy human development. These policies focus on the environment and on individuals at different stages of development.

At the neighborhood level, for example, findings from biosocial criminology would support policies to remove environmental toxins. For example, lead absorption has been found to adversely affect the healthy development of

the brain and is associated with lower IQ (Barth et al., 2002; Dietrich, Succop, Berger, Hammond, & Bornschein, 1991), problems with self-regulation (Needleman, McFarland, Ness, Fienberg, & Tobin, 2002), psychopathy (Wright, Boisvert, & Vaske, 2009), delinquency in adolescence (Bellinger, Leviton, Alfred, & Rabinowitz, 1994; Mendelsohn et al., 1998; Needleman, Riess, Tobin, Biesecker, & Greenhouse, 1996; Needleman et al., 2002), and criminality in adulthood (Wright, Dietrich, Ris, Hornung, & Wessel, 2008). Lead exposure is highly concentrated in the inner cities where the buildings are old, rundown, and replete with lead-based paint. Initiatives that limit lead exposure in inner cities have the potential to reduce harm.

Prenatal intervention programs also emerge as important mechanisms founded on an understanding of healthy human development. Pregnant women who smoke, drink, or use other forms of drugs can cause irreversible damage to their children. Some women are simply unaware of the harmful effects that they are imposing on their child by ingesting these substances. Studies have shown that simply educating pregnant women about these adverse effects can effectively reduce their rate of use (Gebauer, Kwo, Haynes, & Wewers, 1998).

One effective prevention program that targets biosocial-related risk factors is the Nursing Family Partnership program. This program aids unmarried pregnant teens living in poverty by providing them with prenatal and perinatal care. An evaluation of the effectiveness of the program revealed that during the pregnancy Nursing Family Partnership participants smoked fewer cigarettes, had better diets, had fewer kidney infections, and after the baby was born, they were less likely to abuse and neglect their child compared to the control group. In turn, the children of Nursing Family Partnership mothers were less likely to run away; were less involved in cigarette smoking, alcohol consumption, and drug use; had fewer sexual partners; and had fewer arrests and convictions compared to the control group's children (Eckenrode et al., 2000; Olds et al., 1998, 1999). Overall, by targeting the known risk factors derived from biosocial research, children of unmarried teens living in poverty were better adjusted behaviorally.

After the child is born, there should be continued care provided to at-risk families. These services might include continued medical care, mental health screening, parenting classes, drug counseling, or any other program focused on healthy child development like universal

preschool. The Perry Preschool Project, for example, has been shown to be an effective early intervention program that targets biosocial risk factors. This program offered children from lower socioeconomic status, with IQ scores ranging from 60 to 88, the opportunity to receive 2 years of intensive preschool. A review of the program revealed that children who received 2 years of preschool had fewer arrests and were more likely to be employed during adolescence compared to youths with the same IQ who did not attend preschool. Whereas IQ was marginally affected by the program, it was the child's level of educational achievement that was the most important factor related to later delinquency in adolescence (Berrueta-Clement, Schweinhart, Barrett, Epstein, & Weikart, 1984).

Biosocial criminology can also influence how the system treats offenders. For example, Beaver (2009) proposed that treatment programs not only consider an offender's criminogenic risk factors, but also their level of genetic risk. As mentioned, several genetic polymorphisms are considered risk factors for a variety of behavioral problems. Knowing an individual's levels of genetic risk would help to create an individualized treatment plan that could increase the offenders' chances of living a productive and prosocial life. A recent study by Bakermans-Kranenburg et al. (2008) examined whether children respond differently to an intervention program based on genetic differences. Their results reveal that parenting classes aimed at improving maternal sensitivity and discipline lead to decreased levels of externalizing behaviors only in children with the 7R allele for DRD4. This study provides evidence that genetic factors may influence the effectiveness of treatment efforts.

In conclusion, we believe that it is time for a paradigm shift in criminology, and we are confident that a biosocial perspective is the answer. Biosocial criminology not only offers new methods, new questions, and new opportunities for scientific research, but it also provides the necessary framework in which to create policies targeted at changing both the environment and the individual. This growing segment of criminology has the potential of substantially changing the way people think about and study criminal behavior. For the discipline to advance, researchers must use a multidisciplinary approach that incorporates knowledge and research from other scientific disciplines, such as psychiatry, neurology, genetics, and evolutionary psychology. These fields of study are equally concerned with

healthy human development and offer insight on how to avoid the development and continuance of antisocial behaviors. We encourage all graduate students, faculty, and criminologists who are curious about the nature of antisocial behavior to consider the endless possibilities that biosocial criminology has to offer criminology. Together, we can advance criminology from a budding perspective into a scientific discipline with the real potential of reducing criminality across the life course.

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## DISCUSSION QUESTIONS

1. In what ways do Wright and Boisvert's position mirror Sherman's in the previous reading?
2. Discuss what Wright and Boisvert see as the major differences between biosocial criminology and more traditional "environment only" criminology.
3. How would you defend traditional criminology against the claims of Wright and Boisvert?