Early Positive School of Criminology

In this section, we will discuss the dramatic influence on assumptions between the Classical and Positive schools of criminology. As we discussed in Section I, the Classical school focused on punishment as the solution to crime, whereas the Positive school emphasized rehabilitation and the idea that criminals can be reformed. The Penal Code, which was developed during this time, aimed to address the high rates of recidivism and the need for more efficient ways to deal with criminals. This led to the establishment of prisons and correctional facilities where offenders could be housed and treated. Throughout this period, many individuals were committed to these facilities, often facing long periods of confinement. The introduction of rehabilitation programs was seen as a way to reduce the likelihood of recidivism and provide offenders with the skills and resources needed to reintegrate into society. The effectiveness of these programs was debated, with critics arguing that they were not effective and that the penal system should focus solely on punishment. Despite these criticisms, the Positive school of criminology continued to evolve, and its influence can still be seen in modern correctional systems and rehabilitation efforts.
Perhaps the first example of this belief was represented by craniometry. Craniometry was the belief that the size of the brain or skull represents the superiority or inferiority of certain individuals or ethnic or racial groups. The size of the brain and the skull were considered because, at that time, it was believed that a person's skull perfectly conformed to brain structure; thus, the size of the skull was believed to reflect the size of the brain. Modern science has challenged this assumption, but there actually is a significant correlation between the size of the skull and the size of the brain.

Still, even according to the assumptions of the craniomètres, it is unlikely that much can be gathered about an individual's intelligence from the overall size of the brain, and certainly the skull, from simple measurements of mass. The scientists who studied this model, if they were dealing with living subjects, would measure the various sizes or circumferences of the skulls. If they were dealing with recently dead subjects, then they would actually measure the brain weight or volume of the participants. When dealing with subjects who had died long before, craniometrists would measure the volume of skulls by pouring seeds inside and then pouring those that fit into graduated cylinders. Later, when these scientists realized that seeds were not the valid measure of volume, they moved toward using buckshorn or ball bearings.

Most studies by the craniometrists tended to show that subjects of White or Western European descent were superior to those of other ethnic groups in terms of brain volume or skull size. Furthermore, the front portion of the brain (i.e., the genis) was thought to be larger in superior individuals or groups, and the hind portion of the brain or skull (i.e., the splenium) was predicted to be larger in inferior individuals or groups. Notably, these researchers typically knew which brains or skulls belonged to which ethnic or racial group before measurements were taken, making for an unethical and improper methodology. Such biased measurements continued throughout the 19th century and into the early 1900s. These examinations were largely done with the intention of furthering the assumptions of eugenics, which aimed to prove under the banner of science that certain individuals and ethnic or racial groups are inferior to others. The fact that this was their intent is underscored by subsequent tests using the same subjects but performed without knowledge of which skulls or brains were from certain ethnic or racial groups; these later studies showed only a small correlation between size of the skull or brain and certain behaviors or personalities.

Furthermore, some of the early practitioners of craniometry died, their brains were found to have volumes that were less than average or average. The brain of K. F. Gaus, for example, was relatively small but more convoluted, with more gyri and fissures. Craniometrists then switched their postulates to say that more convoluted or complex brain structures, with more fissures and gyri, indicated superior brains. However, this argument was even more tentative and vacuous than the former hypotheses of craniometrists and thus did not last long. The same was true of craniometry in general, thanks to its noticeable lack of validity. However, it is important to note that modern studies show that people who have significantly larger brains tend to score higher on intelligence tests.

Despite the failure of craniometry to explain the difference between criminals and noncriminals, scientists were not ready to give up the assumption that criminal behavior could be explained by visible differences in the skull (or brain), and they certainly weren't ready to give up the assumption that certain ethnic or racial groups were superior or inferior to others. Therefore, the experts of the time created phrenology. Phrenology was the science of determining human dispositions based on distinctions (e.g., bumps) in the skull, which were believed to conform to the shape of the brain. Readers should keep in mind that much of the theorizing by the phrenologists still aimed to support the assumptions of eugenics and show that certain individuals and groups of people are inferior or superior to others.

It is important to keep in mind that, like the craniometrists, phrenologists assumed that the shape of the skull conformed to the shape of the brain. Thus, a bump or other abnormality on the skull directly related to an abnormality in the brain at that spot. Such assumptions have been refuted by modern scientific evidence, so it is not surprising that phrenology fell out of favor in criminological thought rather quickly.

Like its predecessor, however, phrenology got some things right. Certain parts of the brain are indeed responsible for specific tasks. For example, in the original phrenological map, destructiveness was indicated by abnormalities above the left ear. Modern scientific studies show that the most vital part of the brain in terms of criminality associated with trauma is the left temporal lobe, the area above the left ear. Also, most readers know that specific portions of the brain govern the operation of different physical activities; one area governs the action of our hands, whereas other areas govern our arms, legs, and so on. So, the phrenologists had a few things right, but they were completely wrong about the extent to which bumps on the skull could indicate who would be most disposed to criminal behavior.

Once phrenology fell out of favor among scientists, researchers and society in general did not want to depart from the assumption that certain individuals or ethnic groups are inferior to others. Therefore, another discipline, known as physiogomy, became popular in the mid-1800s. Physiogomy is the study of facial and other bodily aspects to indicate developmental problems, such as criminality. Not surprisingly, the early physiogomy studies focused on contrasting various racial or ethnic groups to prove that some were superior or inferior to others.

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2For example, compare Robert Sears, "Some Social Perceptions of the Negro Brain," American Journal of Anatomy 9 (1900): 353–432, which showed a distinct difference in the brains across race that were identified by face before comparison, to Franklin F. Mall, "On Several Anatomical Characters of the Human Brain, Said to Vary According to Race and Sex, with Special Reference to the Weight of the Frontal Lobes," American Journal of Anatomy 9 (1899): 1–32, which showed virtual no differences among the same brains when compared with knowledge of the races of the brains prior to comparison. See discussion in Stephen Jay Gould, The Mismeasure of Man, 2nd ed. (New York: Norton, 1982).
3See Mall, "On Several Anatomical Characters," much of the discussion in this section is taken from Gould, Mismeasure of Man.
Given modern understandings of science, it is not surprising that physiognomy did not last long as a respected scientific perspective of criminality. At any time other than the late 1800s, their ideas would not have been accepted for long, if at all. However, the theory emerged at an auspicious time. Specifically, Darwin published his work The Origin of Species in the late 1800s and made a huge impact on societal views regarding the rank order of groups in societies.

Darwin's model outlined a vague framework suggesting that humans had evolved from more primitive beings and that the human species (like all others) had evolved from a number of adaptations preferred by natural selection. In other words, some species are selected by their ability to adapt to the environment, whereas others do not adapt as well and die off or at least become inferior in terms of dominance. This assumption of Darwin's work, which was quickly and widely accepted by both society and scientists throughout the world, falsely led to an inclination to believe that certain ethnic or racial groups are inferior or superior to other groups. Despite a backlash by many religious authorities, who were likely threatened by the popularity of a theory that promoted natural design as opposed to a higher being or creator, Darwin had created a scientific snowball that spread like wildfire across virtually all scientific disciplines, particularly criminology.

Darwin was not a criminologist, so he is not considered a father or theorist in the field. However, he did set the stage for what followed in criminological thought. Specifically, Darwin's theory laid the groundwork for what would become the first major scientific theory of crime, namely, Cesare Lombroso's theory of born criminals, which also tied together the assumptions and propositions of craniometry, phrenology, and physiognomy.

**Lombroso's Theory of Atavism and Born Criminals**

Basing his work on Darwin's theory of natural selection, Cesare Lombroso (1835–1909) created what is widely considered the first attempt toward scientific criminality in criminological thought. Most previous theorists were not scientists; Beccaria, for example, was taught in law and never tested his propositions. Unlike the craniometrists and phrenologists, Beccaria's goal was not to explain levels of criminality. However, Lombroso was trained in medical science, and he aimed to document his observations and use scientific methodology. Furthermore, timing was on his side in the sense that Darwin's work was published 12 years prior to Lombroso's major work, and in that time, the idea of evolution had become immensely popular with both scientists and the public.

**Lombroso's Theory of Crime**

The first edition of Lombroso's The Criminal Man was published in 1876 and created an immediate response in most Western societies, influencing both their ideas and policies related to crime and justice. In this work, Lombroso outlined a theory of crime that largely brought together the pre-Darwinian theories of craniometry, phrenology, and physiognomy. Furthermore, Lombroso thought that certain groups and individuals were atavistic, and that they likely were born to commit crime. Atavism refers to the idea that a person or feature of an individual is a throwback to an earlier stage of evolutionary development. In other words, Lombroso thought serious criminals were lower forms of humanity in terms of evolutionary progression. For example, Lombroso would probably have suggested that chronic offenders are more like earlier stages of humankind—that is, like missing links—than they are like modern humans.

Lombroso noted other types of offenders, such as the mentally ill and criminals who committed minor offenses due to external or environmental circumstances, but he argued that the born criminals should be the target in addressing crime, insisting that they were the most serious and violent criminals in any society. These are what most criminologists now refer to as chronic offenders. Furthermore, Lombroso claimed that born criminals cannot be stopped from their natural tendencies to be antisocial.

On the other hand, Lombroso claimed that, although it was their nature to commit crimes, born criminals could be stopped, or at least partially deterred by society. According to Lombroso, societies could identify born criminals, even early in life, through their stigmata. Stigmata were physical manifestations of the atavism of an individual, that is, features indicating a prior evolutionary stage of development.

**Lombroso's List of Stigmata**

According to Lombroso, more than five stigmata indicate that an individual is atavistic and inevitably will be a born criminal. Understandably, readers may be wondering what these stigmata are, given their importance. This is a great question, but the answer varies. In the beginning, this list was largely based on Lombroso's work as a physician; it included features such as large eyes and large ears. Lombroso changed this list as he went along, however, even in the last edition of his book published well into the 1900s, which might be considered poor science.

For the most part, stigmata consisted of facial and bodily features that deviated from the norm—in other words, abnormally small or large noses, abnormally small or large ears, abnormally small or large eyes, abnormally small or large jaws—almost anything that went outside the bell curve of normal human physical development. Lombroso also threw in some extra-physiological features, such as tattoos and a family history of epilepsy and other disorders. Although tattoos may be somewhat correlated to crime and delinquency, is it likely that they cause antisocial behavior? Given Lombroso's model that people are born criminals, it is quite unlikely that such factors are causally linked to criminality. How many babies are born with tattoos? Ignoring the illogical nature of many of the stigmata, Lombroso professed that people who had more than five of these physical features were born criminals and that something should be done to prevent their inevitable future offending career.

As a physician working for the Italian army, Lombroso examined the bodies of war criminals who had been captured and brought in for analysis. According to Lombroso, he first came to the realization of the nature of criminals when a particular individual was brought in for him to examine:

This was not merely an idea, but a flash of inspiration. At the sight of that skull, I seemed to see all at once, lighted up as a vast plain under a flaming sky, the problem of the nature of the criminal—an atavistic being who reproduces in his person the ferocious instincts of primitive humanity and the inferior animals.

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1Lombroso, The Criminal Man (Unano Delleinfamati), 1st ed. (Milan: Hoepli, 1876); 2nd ed. (Turin: Roca, 1878).
This was Lombroso's first exposure to such a criminal, and this account of it was his first acknowledgment of this individual: 

Thus were explained anatomically the enormous jaws, high cheek bones... 

The theory that he created. He expanded on this theory by specifying some of the physical features he observed in the criminals: 

extreme size of the orbits, handle-shaped ears found in criminals, savages and apes, insensibility to pain, its own sake, the desire not only to extinguish life in the victim, but to mutilate the corpse, tear its flesh and drink its blood. 

Although most people may now laugh at his words, at the time he wrote this description, it would have rung true to most readers, which is likely why his book was the dominant text for many decades in the criminological field. In this description, Lombroso incorporated many of the core principles of his theory, including the idea that "stigmata." 

A good example of the popular acceptance of Lombroso's "scientific" stigmata was Bram Stoker's use of them in his 1897 novel Dracula, which featured a character based on Lombrosian traits of a villain, such as a high-breded, Lombroso theory was highly dominant in society and in science. Lombroso's ideas became quite popular among academics, scientists, philosophers, fiction writers, and those responsible for criminal justice policy. Beyond identifying born criminals by their stigmata, Lombroso said he could associate the stigmata with certain types of criminals—aristocrats, burghers, murderers, shoplifters, and so on. Of course, his work is quite invalid by modern research standards. 

Lombroso as the Father of Criminology and the Father of the Positive School 

Lombroso's theory came a decade and a half after Darwin's work had been published and had spread rapidly throughout the Western world. Also, Lombroso's model supported what were then the Western world's views on what others had tested his hypotheses through observation, Lombroso was widely considered the father of criminology, considered highly invalid by modern standards. It is deserved, however, in the sense that he was the first person to that became popular at that time: the Fascist and Nazism at the early 1920s. Beyond being considered the father of criminology, Lombroso is also considered the father of the Positive School of criminology because he was the first to gain prominence in identifying factors beyond free will and free perspectives that went beyond free will, such as craniometrics and phrenologists, Lombroso was the first to gain time, which is the most likely reason why Lombroso is considered the father of the Positive School of criminology. It is important to understand the assumptions of positivism, which most experts consider somewhat synony-factors beyond free will and free choice. In other words, determinism (i.e., the Positive School) assumes that human beings do not decide how they will act by logically thinking through the costs and benefits of a given situation. 

Rather, the Positive School attributes all kinds of behavior, especially crime, on biological, psychological, and sociological variables. 

Many readers probably feel they chose their career paths and made most other key decisions in their lives. However, scientific evidence shows otherwise. For example, studies clearly show that far more than 90% of the world's population has adopted the religious affiliation (e.g., Baptist, Buddhist, Catholic, Jewish) of their parents or caretakers. Therefore, what most people consider to be an extremely important decision—the choice of beliefs regarding a higher being or force—is almost completely determined by the environment in which they were brought up. Almost no one sits down and studies various religions before deciding which one suits him or her the best. Rather, in almost all cases, religion is determined by culture, and this finding goes against the Classical School's assumption that free will rules. The same type of argument can be made about the clothes we wear, the food we prefer, and the activities that give us pleasure. 

Another way to distinguish positivism and determinism from the Classical School lies in the way scientists view human behavior, which can be seen best in an analogy with chemistry. Specifically, a chemist assumes that, if a certain element is subjected to certain temperatures, pressures, or mixtures with other elements, a predicted response will result. In a highly comparable way, a positivist assumes that, when human beings are subjected to poverty, delinquency peers, low intelligence, or other factors, they will react and behave in predictable ways. Therefore, there is virtually no difference in how a chemist feels about particles and elements and how a positivistic scientist feels about how humans react when exposed to biological and social factors. In Lombroso's case, the deterministic factor was the biological makeup of the individual. However, we shall see in the next several sections that positivistic theories focus on a large range of variables, from biology to psychology to social aspects. For example, many readers may believe that hard working, poverty, and associating with delinquent peers are some of the most important factors in predicting criminality. If you believe that such variables have a significant influence on decisions to commit crime, then you are likely a positive theorist; you believe that crime is caused by factors above and beyond free choice or free will. 

Lombroso's Policy Implications 

Beyond the theoretical aspects of Lombroso's theory of criminality, it is important to realize that his perspective had profound consequences for policy. Lombroso was called to testify in numerous criminal proceedings and trials to determine the guilt or innocence of suspects. Under the banner of science (comparable to what we consider DNA or fingerprint analysis in modern times), Lombroso was asked to specify whether or not a suspect had committed a crime. Lombroso based such judgments on the visual stigmata that he could see among suspects. Lombroso documented many of his experiences as an expert witness at criminal trials. Here is one example: "One suspect was, in fact, the most perfect type of the born criminal: enormous jaws, frontal sinuses, and sygoma, this upper lip, huge incisors, unusually large head... [He] was convicted." 

When Lombroso was not available for such "scientific" determinations of the guilt or innocence of suspects, (often referred to as lieutenants) were often sent. Some of these students, such as Enrico Ferri and Raphael Garzofo, became quite active in the Fascist regime of Italy in the early 1900s. This model of government, like that of the Nazi Party of Germany, sought to remove the "inferior" groups from society. Another policy implication in some parts of the world was the identification of young children on the basis of observations, which often become noticeable in the first 5 to 10 years of life. This led to tracking or isolating of certain children, largely based on physiological features. Although many readers may consider such policies
The IQ Testing Era

Despite the evidence that was presented against Lombroso, his theorizing remained dominant until the early 1900s, when criminologists realized that stigma and the idea of born criminals were not valid. However, even at that time, several ideas and researchers were not ready to give up on the eugenic assumption that certain ethnic or racial groups were inferior, with benevolent intentions, by Alfred Binet in France. This new measure was IQ, short for intelligence quotient. At that time, IQ was calculated as chronological age divided by mental age, which was then multiplied by 100. The average score was 100. This scale has changed enormously over time, but the basic premise was that the test could be used to determine whether someone was above or below average intelligence (100).

As mentioned above, Binet had good intentions: He created IQ scores to identify youths who were not performing up to par in academic skills. Binet was explicit in stating that IQ could be changed; the reason he proposed a score to identify slow learners was so that they could be trained to increase their IQ. However, when Binet’s work was brought over to the United States, his basic assumptions and propositions were modified. One of the most prominent individuals who used Binet’s IQ test in the United States for purposes of deporting, incapacitating, sterilizing, and otherwise ridding society of low-IQ individuals was H. H. Goddard.

Goddard is generally considered the leading authority on the use and interpretation of IQ testing in the United States. He adapted Binet’s model to examine immigrants who were coming into the United States from foreign lands. It is important to note that Goddard proposed quite different assumptions regarding intelligence or IQ than did Binet. Goddard asserted that IQ was static or innate, meaning that such levels could not be changed, even with training. His assumption was that intelligence was inherited from parents and passed from generation to generation.

Goddard labeled low IQ feeblemindedness, which in the 1920s actually became a technical, scientific term characterizing those who had significantly below-average levels of intelligence. Of course, being a scientist, Goddard specified certain levels of feeblemindedness, which were ranked based on the degree to which scores were below average. Ranging from the highest to the lowest intelligence, the first group were the morons, the second-lowest group were the imbeciles, and the lowest-intelligence group were the idiots.

According to Goddard, from a eugenics point of view, the biggest threat to the progress of humanity was not the idiots but the morons. In Goddard’s words, “The idiot is not our greatest problem. . . . He does not continue the race with a line of children like himself . . . . It is the moron type that makes for our great problem.” That is, the moron is the one group out of the three categories of feebleminded that is smart enough to slip through the cracks and reproduce.

Goddard received many grants to fund his research to identify the feebleminded. Goddard took his research team to the major immigration centers at Ellis Island in the early 1900s to identify the feebleminded as they attempted to enter the United States. Many members of his team were women, who felt they were better at distinguishing the feebleminded by sight:

The people who are best at this work, and who I believe should do this work, are women. Women seem to have closer observation than men. It was quite impossible for others to see how . . . women could pick out the feeble-minded without the aid of the Binet test at all.


9Taken from Mary Wildrip and Charles Hallworth, "Minor Physical Anomalies and Hypersensitive Behavior in Young Children," in Exceptional Infants: Perspectives on Child Development (Belmont, Wadsworth, 2001).


11Again, most of this discussion is taken from Gould, "Feebleminded Man," because his review is perhaps the best known in the current literature.


Goddard was proud of the increase in the deportation of potential immigrants to the United States, enthusiastically reporting that deportations for the reason of mental deficiency increased by 350% in 1913 and 570% in 1914 over the averages of the preceding five years. However, over time, Goddard realized that his policy recommendations of deportation, incarceration, and sterilization were not based on accurate science.

After consistently validating his IQ test on immigrants and mental patients, Goddard finally tested his intelligence scale on a relatively representative cross-section of American citizens, namely draftees for military service during World War I. The results showed that many of these recruits would score as feebleminded (i.e., as having a mental age of less than 12) on the IQ test. Therefore, Goddard lowered the criterion for determining feeblemindedness from the mental age of 12 to that of age 8. Although this appears to be a clear admission that his scientific method was inaccurate, Goddard continued to promote his model of the feebleminded for many years, and societies used his ideas.

However, toward the end of his career, Goddard admitted that intelligence could be improved, despite his earlier assumptions that it was innate and static. In fact, Goddard actually claimed that he had "gone over to the enemy." However, despite Goddard's admission that his assumptions and testing were not determinant of individuals' intelligence levels, the snowball had been rolling for too long and had gathered too much strength to fight even the most notable theorists' admonishments.

Sterilization of individuals, mostly females, continued in the United States based on scores of intelligence tests. Often the justification was not a person's own intelligence scores but those of his or her mother or father. Goddard had proclaimed that the germ-plasm determining feeblemindedness was passed on from one generation to the next, so it inevitably resulted in offspring being feebleminded as well. Thus, the U.S. government typically sterilized individuals, typically women, based on the IQ scores of their parents.

The case of Buck v. Bell, brought to the U.S. Supreme Court in 1927, dealt with the issue of sterilizing individuals who had scored, or whose parents had scored, as mentally deficient on intelligence scales. The majority opinion, written by one of the court's most respected jurists, Oliver Wendell Holmes, Jr., stated:

"We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for lesser sacrifices... Three generations of imbeciles are enough."

Thus, the highest court in the United States upheld the use of sterilization for the purposes of limiting reproduction among individuals who were deemed feebleminded according to an IQ score. Such sterilizations continued until the 1970s, when the practice was finally halted. Governors of many states, such as North Carolina, Virginia, and California, have given public apologies for what was done. For example, in 2002, the governor of California, Gray Davis, apologized for the state law passed almost a century earlier that had resulted in the sterilization of about 19,000 women in California.

Although this aspect of U.S. history is often hidden from the public, it did occur, and it is important to acknowledge this blot on our nation's history, especially at a time when we are fighting abuses of civil rights by the Nazis and other regimes. Ultimately, the sterilizations, deportations, and incarcerations based on IQ testing are an embarrassing episode in the history of the United States.

For decades, the issue of IQ was not researched or discussed much in the literature. However, in the 1970s, a very important study was published in which Travis Hirschi and Michael Hindelang examined the effect of intelligence on youths' behaviors. Hirschi and Hindelang found that, among youths of the same race and social class, intelligence had a significant effect on delinquency and criminality among individuals. This study, as well as others, showed that the IQ of delinquents or criminals is about 10 points lower than that of noncriminals. This study led to a rebirth in research regarding intelligence testing within the criminological perspective. A number of recent studies have shown that certain types of intelligence are more important than others. For example, several studies have shown that having low verbal intelligence has the most significant impact on predicting delinquent and criminal behavior.

"As quoted in Gould, Mismeasure of Man, 365.
"For a review, see Raymond Paternoster and Ronet Bachman, Explaining Criminal and Crime (Los Angeles: Roxbury, 2001). Also see Raine, Psychopathology.
This tendency makes sense, because verbal skills are important for virtually all aspects of life, from everyday interactions with significant others to filling out forms at work to dealing with people via employment. In contrast, most people do not require advanced math or quantitative skills at their jobs or in day-to-day experiences, let alone spatial and other forms of intelligence that are more abstract. Thus, the fact that low verbal IQ is the type of intelligence that represents the most direct prediction for criminality is most likely due to the general need for verbal skills in routine daily activities. After all, people who lack communication skills will likely find it hard to obtain or retain employment or deal with family and social problems.

This rebirth in studies regarding the link between intelligence and criminality seemed to reach a peak with the publication of Richard Herrnstein and Charles Murray's *The Bell Curve* in 1994. Although this publication changed the terms moron, imbecile, and idiot to relatively benign terms (e.g., cognitively disadvantaged), their argument was consistent with that of the futurism-minded researchers of the early 20th century. Herrnstein and Murray argued that people with low IQ scores are somewhat destined to be unsuccessful in school, become unemployable, produce illegitimate children, and commit crime. They also suggest that IQ or intelligence is primarily innate, or genetically determined, and that there is little chance of improving it. These authors also noted that African Americans tended to score lower, whereas Asians and Jewish people tended to score higher, and they offered results from social indicators supporting their argument that the intelligence levels of the latter resulted in relative success in life in terms of group-level statistics.

This book produced a public outcry, resulting in symposiums at major universities and other venues in which the authors' postulates were largely condemned. As noted by other reviews of the impact of this work, some professors at public institutions were sued in court because they used this book in their classes. However, the book received blistering reviews from fellow scientists. However, none of these scientific critics has fully addressed the undisputed fact that African Americans consistently score low on intelligence tests and that Asians and Jews score higher on these examinations. Furthermore, none has adequately addressed the issue that, even within these populations, low IQ scores (especially on verbal tests) predict criminality. For example, in samples of African Americans, the group that scores lowest on verbal intelligence consistently commits more crime and is more likely to become delinquent or criminal. So, despite the harsh criticisms of *The Bell Curve*, it is apparent that there is some validity to the authors' arguments.

With the popularity of intelligence testing and IQ scores in the early 20th century, it is not surprising that this was also the period when other psychological models of deviance and criminality became popular. However, one of the most popular involved body type theories.

**Body Type Theory: Sheldon's Model of Somatotyping**

Although there were numerous theories based on body types in the late 1800s and early 1900s, such as Lombroso and those who called themselves criminal anthropologists, none of these perspectives had a more enduring impact than that of William Sheldon. In the mid-1940s, a new theoretical perspective was proposed that merged the concepts of biology and psychology. Sheldon claimed that, in the embryonic and fetal stages of development, individuals tend to have an emphasis on certain tissue layers. According to Sheldon, these varying degrees of emphasis are largely due to heredity and lead to the development of certain body types and temperaments or personalities. This became the best-known body type theory, also known as somatotyping.

According to Sheldon, all embryos must develop three distinct tissue layers, and this much is still acknowledged by perinatal medical researchers. The first layer of tissue is the *endoderm*, which is the inner layer of tissues and includes the internal organs, such as the stomach, large intestine, and small intestine. The middle layer of tissue, called the *mesoderm*, includes the muscles, bones, ligaments, and tendons. The *ectoderm* is the outer layer of tissue, which includes the skin, capillaries, and much of the nervous system's sensors.

Sheldon's use of these medical facts regarding various tissue layers to propose that certain individuals tend to emphasize certain tissue layers relative to others, typically due to inherited dispositions. In turn, Sheldon believed that such emphases lead to certain body types in an individual, such as people who have a focus on their endoderm in embryonic development will inevitably become *endomorphic*, or obese (see Image 4.4a). According to this theory, individuals who have an emphasis on the middle layer of tissue will typically become *mesomorphic*, or at least muscular (see Image 4.4b). While individuals who have an emphasis on the outer layer will end up with an *ectomorphic* build, or thin (see Image 4.4c).

Sheldon and his research team graded each subject on three dimensions corresponding to these body types. Each body type was measured on a scale of 1 to 7, with 7 being the highest score. Obviously, no one could score a 0
for any body type because all tissue layers are needed for survival; we all need our internal organs, bone and muscular structure, and all other systems (skin, capillaries, etc.). Each somatotype always had the following order: endomorphic, mesomorphic, ectomorphic. Thus, the scores on a typical somatotype might be 3-6-2, which would indicate that this person scored a 3 (a little lower than average) on endomorphic, a 6 (high) on mesomorphic, and a 2 (relatively low) on ectomorphic. According to Sheldon's theory, this hypothetical subject would be a likely candidate for criminality because of the relatively high score on mesomorphy. In fact, the results from his data, as well as all studies that have examined the association of body types with delinquency or criminality, would support this prediction.

Perhaps most important, Sheldon proposed that these body types matched personality traits or temperaments. Individuals who were endomorphic (obese), Sheldon claimed, tended to be more jolly or lazy. The technical term for this temperament is viscerotonic. In contrast, people who were mesomorphic (muscular) typically had risk-taking and aggressive temperaments, called somatonic. Last, individuals who were ectomorphic (thin) tended to have introverted or shy personalities, which is referred to as cerebrotonic. According to Sheldon, members of the middle group, the mesomorphs, obviously had the highest propensity toward criminality because they were disposed toward a risk-taking and aggressive personality.

Interestingly, many politicians were subjects in Sheldon's research. Most entering freshmen at Ivy League schools, especially Harvard, were asked to pose for photos for Sheldon's studies. The Smithsonian Institution still retains a collection of nude photos of George W. Bush, Hillary Rodham Clinton, and many other notable figures.15

Sheldon used poor methodology to test his theory. He based his measures of subjects' body types on what he subjectively judged from viewing three perspectives of each subject and often from only three pictures taken of each subject in the study. He also had his trained staff view many of the photos and make their determinations of how these individuals scored on each category of body type. The reliability among these scorings has been shown to be weak, meaning that the trained staff did not tend to agree with Sheldon or among themselves on the somatypes for each participant.

This is not surprising, given the high level of variation in body types and the fact that Sheldon and his colleagues did not employ the technology that is used today, such as caliper tests and submersion in water tanks, which provide the information for which he was searching. People may alter their weights, going from an ectomorphic or mesomorphic build to a more endomorphic form, or vice versa. Presented with the argument that individuals often alter their body types via diet or exercise, Sheldon responded that he could tell what the "natural" body type of each individual was from the three pictures that were taken. Obviously, this position is not a strong one, as demonstrated by the poor inter-rater reliability shown by his staff. Therefore, Sheldon's methodology is questionable, which casts doubt on the entire theoretical framework.

Despite the problems in his methodology, Sheldon clearly showed that mesomorphs, or individuals who had muscular builds and tended to take more risks, were more delinquent and criminal than individuals who had other body types or temperaments.16 Furthermore, other researchers, even those who despised Sheldon's theory, found the same associations between mesomorphy and criminality, as well as related temperaments (i.e., somatonic) and criminality.17 Subsequent studies showed that mesomorphic boys were far more likely to have personality traits that predicted criminality, such as aggression, short tempers, self-centeredness, and impulsivity.

Recent theorists have also noted the link between an athletic, muscular build and the highly extraverted, aggressive personality that is often associated with this body type.18 In fact, some recent theorists have gone so far as to claim that chronic offenders, both male and female, can be identified early in life by their relatively V-shaped pelvic structure as opposed to a U-shaped pelvic structure.19 The V-shaped pelvis is said to indicate relatively high levels of androgens (male hormones, like testosterone) in the system, which predisposes individuals toward crime. On the other hand, a more U-shaped pelvis indicates relatively low levels of such androgens and therefore lower propensity toward aggression and criminality. Using this logic, it may be true that more hair on an individual's arms (whether that person be male or female) is predictive of a high likelihood for committing crime. However, no research exists regarding this factor.

Regarding the use of body types and characteristics in explaining crime, many of the hard-line sociologists who have attempted to examine or replicate Sheldon's results have never been able to refute the association between mesomorphs and delinquency or criminality, nor the association between mesomorphy and the somatonic characteristics of risk-taking and aggression.20 Thus, the association between being muscular or athletically built and engaging in criminal activities is now undisputed and assumed to be true.

Still, sociologists have taken issue with the reasons for this association. Whereas Sheldon claimed it was due to inherited traits for a certain body type, sociologists argue that this association is due to societal expectations: Muscular male youths would be encouraged to engage in risk-taking and aggressive behavior. For example, a young male with a athletic build would be encouraged to join sports teams and engage in high-risk behaviors by peers. Who would gang most desire as members? More muscular, athletic individuals would be better at fighting and performing acts that require a certain degree of physical strength and stamina.

Ultimately, it is now established that mesomorphs are more likely to commit crime.21 Furthermore, the personality traits linked to having an athletic or muscular build are dispositions toward risk-taking and aggressiveness, and few scientists dispute this correlation. No matter which theoretical model is adopted, whether the biopsychologists or the sociologists, the fact is that mesomorphs are indeed more likely to be risk-taking and aggressive and, thus, to commit more crime than individuals of other body types.

However whether the cause is biological or sociological is a debate that shows the importance of theory in criminological research. After all, the link between mesomorphy and criminality is now undisputed; the explanation of why this link exists has become a theoretical debate. Readers may make their own determination—if not now, then later.

Our position is that both biology and social environment are likely to interact with one another in explaining this link. Thus, it is most likely that both nature and nurture are at play in this association between mesomorphy and crime, and both Sheldon and his critics may be correct. A middle ground can often be found in theorizing on criminality. It is important to keep in mind that theories in criminology, as a science, are always considered subject to falsification and criticism and can always be improved. Therefore, our stance on the validity and influence of this theory, as well as others, should not be surprising.

Policy Implications

Many policy implications can be derived from the theories presented in this section. First, one could propose more thorough medical screening at birth and in early childhood, especially regarding minor physical anomalies (MPAs). The studies reviewed in this section obviously implicate numerous MPAs in developmental problems (most of them arising in the womb). These MPAs are a red flag signaling problems, especially in cognitive abilities, which are likely to have a significant impact on propensity for criminal behavior.22 Other policy implications derived from the theories and findings of this section involve having same-sex classes for children in school because they focus on deficiencies that have been shown for both young boys and

15See discussion in Brown et al., Criminology, 246.
16Sheldon et al., Varieties.
19See enrichment.
20For a review, see Lee Ellis and Anthony Walsh, Criminality: A Global Perspective (Boston: Pyra Press, 2000), supplemental tables and references.
21See enrichment.
22See enrichment.
Section IV: Early Positive School Perspectives on Criminality

The Positive School of criminology assumes the opposite of the Classical School. Whereas the Classical School assumes that individuals commit crime because they freely choose to act after rationally considering the expected costs and benefits of the behavior, the Positive School assumes that individuals have virtually no free will or choice in the matter; rather, their behavior is determined by factors outside of free will, such as poverty, low intelligence, bad child rearing, and unemployment.

The earliest positive theories, such as craniometry and phrenology, emphasized measuring the size and shape of the skull and brain. These perspectives did not become very popular because they preceded Charles Darwin's theory of evolution.

Cesare Lombroso, the father of criminology, presented a theoretical model that assumed that the worst criminals are born that way. Highly influenced by Darwin, Lombroso claimed that born criminals are evolutionary throwbacks who are not as highly developed as most people.

Lombroso claimed that these born criminals could be identified by physical features called stigmata. This led to numerous policy implications that fit with the societal beliefs at that time, such as Fascism.

In the early 1900s, the IQ test was invented in France and was quickly used by American researchers in their quest to identify the feebleminded. This led to massive numbers of deportations, sterilizations, and institutionalizations across the United States and elsewhere.

Modern studies support a link between low verbal IQ and criminality, even within a given race, social class, or gender.

Merging elements of the early physiological and psychological perspectives are body type theories. The best known of these is somatotyping, which was proposed by William Sheldon. Sheldon found that an athletic or muscular build (i.e., mesomorphic) is linked to an aggressive, risk-taking personality, which in turn is associated with higher levels of crime.

Despite the methodological problems with Sheldon's body type theory, many propositions and associations of the perspective hold true in modern studies.

The early Positive School theories set the stage for most of the other theories we will be considering in this book because they emphasize use of the scientific method for studying and explaining criminal activity.

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**KEY TERMS**

- atavism
- cerebrotonic
- craniometry
- determinism
- ectoderm
- ectomorphic
- endoderm
- endomorphic
- eugenics
- feebblemindedness
- mesoderm
- mesomorphic
- minor physical anomalies (MPAs)
- phrenology
- physiognomy
- somatotyping
- somatonic
- stigma
- viscerotonic

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43 Ibid., 258–63.
44 Gibson et al., "Contribution of Family Adversity"
DISCUSSION QUESTIONS

1. What characteristics distinguish the Positive School from the Classical School regarding criminal thought? Which of these schools do you lean toward in your own perspective of crime and why?

2. Name and describe the various early schools of positivistic theories that existed in the early to mid-1800s (pre-Darwin), as well as the influence that they had on later schools of thought regarding criminality. Do you see any validity in these approaches (as modern medical science does)? Why or why not?

3. What were the significant reasons that these early schools of positivistic theories did not gain much momentum in societal popularity? Does this lack of popularity relate to the neglect of biological perspectives of crime in modern times?

4. What portion of Lombrosi's theory of criminality do you find least valid? Which do you find most valid?

5. Most readers have taken the equivalent of an IQ test (e.g., SAT or ACT tests). Do you believe that this score is a fair representation of your knowledge as compared to that of others? Why or why not? Do your feelings reflect the criticisms of experts regarding the use of IQ (e.g., as in feebled-mindedness theory) in identifying potential offenders?

6. In light of scientific findings that show that verbal IQ is a consistent predictor of criminality among virtually all populations and samples, can you provide evidence from your personal experience for why this occurs?

7. What portion of Sheldon's body type theory do you find most valid? What do you find least valid?

8. If you had to give yourself a somatotype (e.g., 3-6-2), what would it be? Explain why your score would be the one you provide, and note whether this would make you likely to be a criminal in Sheldon's model.

9. Provide somatotypes of five of your family members or best friends. Do the somatotypes have any correlation with criminality according to Sheldon's predictions? Either way, describe your findings.

10. Ultimately, do you believe that some of the positive theoretical perspectives presented in this section are valid, or do you think they should be entirely dismissed in terms of understanding or predicting crime? Either way, state your case.

11. What types of policies would you implement if you were in charge, given the theories and findings in this section?

WEB RESOURCES

Body Type Theories/Somatotyping

IQ Testing/Feebled-Mindedness

Cesare Lombroso
- http://www.thensauisies.it/Ma_Lombroso.html

Phrenology/Cranio-Ymetry
- http://www.phrenology.org/index.html
- http://skepdic.com/craniat.html

2. Anthropometry and Physiognomy of 832 Criminals

To many, my attempt to conclude anything at all about the cranial dimensions of the criminal man from a few measurements of cadavers will seem futile and rash. Fortunately, however, I have been able to compare these measurements with those taken from 832 live specimens of criminals, thanks to the help of colleagues who are prison directors and physicians.

In terms of height, criminals reproduce their regional types. In Italy, they are very tall in the Veneto (1.69 meters), fairly tall in Umbria and Lombardy (1.66 m), less tall in Emilia, Calabria, and Piedmont (1.63 m), slightly shorter in Naples, Sicily, and the Marches, and shortest of all in Sardinia (1.59 m). Compared with healthy men in the army, criminals appear to be taller than the average Italian, especially in the Veneto, Umbria, Lombardy, Sicily, and Calabria. In the Marches, Naples, and Piedmont, criminals are the same height as healthy men.

These findings, however, are skewed by the preponderance of robbers and murderers in my sample, and thus they conflict with the conclusions of Thomson and Wilson. Robbers and murderers are taller than rapists, forgers, and especially thieves. As for weight, we can compare the findings on 1,331 soldiers, studied by me and Dr. Franchini, with the average for criminals from each region. In the Veneto, healthy men weighed an average of 68 kilograms, while criminals weighed 62.8 kg. But in most other regions, most notably Naples, Sicily, and Piedmont, criminals' average weight exceeded that of healthy men.

There are many erroneous ideas in circulation about the physiognomy, or facial expressions, of criminals. Novelist turn them into frightening-looking men with beards that go right up to their eyes, penetrating ferocious gazes, and hawk-like noses. More serious observers, such as Casper, err on the extreme, finding no differences between criminals and normal men. Both are wrong. It is certainly true that there

Source: Cesare Lombroso, "Anthropometry and Physiognomy of 832 Criminals" (chap. 2), "Tattoos" (chap. 3), and "Emotions of Criminals" (chap. 4), in Criminal Man (Dunod Enterprises), ed. and trans. Mary Gibson and Nicole Raifer (Durham, NC: Duke University Press), 50-49. © 2006 Duke University Press. All rights reserved. Used by permission of the publisher. Footnotes are part of the original text.

Thomson found an average weight of 151 pounds among 425 Scottish criminals, 106 pounds among 147 Irish criminals, and 149 pounds among 55 English criminals. The average height was 5 feet 6.9 inches for the Scottish criminals, 5 feet 6.2 inches for the English, and 5 feet 6.6 inches for the Irish.