WHAT MAKES SERIAL KILLERS TICK?

...are the psychopathic criminals really different from birth? Many parents say that their children who grow up to be violent offenders are markedly different from their non-violent siblings. Three-year-old Ted Bundy sneaked into his teenage aunt Julia's room one morning, and slipped butcher knives under the covers of her bed. "He just stood there and grinned," she said. Serial killer Carl Panzram himself wrote: "All of my family are as the average human beings are. They are honest and hard working people. All except myself. I have been a human-animal ever since I was born. When I was very young at 5 or 6 years of age I was a thief and a liar and a mean despicable one at that. The older I got the meaner I got." German child killer Peter Kurten had drowned two playmates by the tender age of nine.

Are these children just born bad? Environment alone cannot explain deranged behavior — too many abused and neglected children grow up to be law-abiding citizens. If there is a genetic explanation, its a slippery, discreet mutation. We don't see entire families of serial killers. There is no such thing as a "kill gene", but research is revealing some genetic tendencies to violent behavior. In other words, bad seeds blossom in bad environments.

One study of twins who were raised apart, done by Yoon-Mi Hur and Thomas Bouchard in 1997, revealed a strong link between impulsivity and sensation-seeking behavior, "attributed almost entirely to genetic factors." Both sensation-seeking traits and impulsivity have been "found to be higher in drug abusers, delinquents, and psychopaths."

Do Serial Killers Have an Extra Chromosome?

Multiple murderer Bobby Joe Long had an extra X (female) chromosome, otherwise known as Klinefelter's syndrome, which meant he had the female hormone estrogen circulating in higher amounts in his system. His breasts grew during puberty, which caused him great embarrassment. Long, however, has an abundance of other serial killer prerequisites. He suffered traumatic and repeated head injuries, among other things.

Conversely, an extra Y (male) chromosome was once in vogue as an explanation to violence. Mass murderer Richard Speck's legal defense said he had an XYY genetic makeup, but further tests proved this wrong. While an extra male chromosome seems like a logical explanation for mutant-aggressive behavior, there is not much evidence that links the X or Y chromosome to serial killers.

Testosterone

High testosterone in itself is not a dangerous thing, but when it is combined with low levels of serotonin, the results might be deadly. Testosterone is associated with the need for dominance (many successful athletes and businessmen have high testosterone levels.) But since not everyone can be the top dog, serotonin keeps the tension from peaking, and mellows us out. When serotonin levels are abnormally low, however, frustration can lead to aggressive, even sadistic behavior, according to a study by Paul Bernhardt.

Heavy Metals

Some research has shown that violent offenders have higher trace levels of toxic heavy metals (manganese, lead, cadmium and copper) in their systems. Excess manganese lowers the level of serotonin and dopamine, which contributes to aggressive behavior. Alcohol increases the effects. James Huberty, the mass murderer, had excessive amounts of the toxic substance cadmium in his system.

Brain Defects

"After I'm dead, they're going to open up my head and find that just like we've been saying a part of my brain is black and dry and dead," said Bobby Joe Long, who suffered a severe head injury after a motorcycle accident. According to many researchers, brain defects and injuries have been an important link to violent behavior. When the hypothalamus, the temporal lobe, and/or the limbic brain show damage, it may account for uncontrollable aggression. The hypothalamus regulates the hormonal system and emotions. The "higher" brain has limited control over the hypothalamus. Because of the physical closeness of sexual and aggressive centers within the hypothalamus, sexual instinct and violence become connected for lust murderers. The hypothalamus may be damaged through malnutrition or injury.

The temporal lobe is highly susceptible to injury, located where the skull bone is thinnest. Blunt injuries, including falling on a hard surface, can easily damage this section of the brain, creating lesions, which cause forms of amnesia and epileptic seizures. Damage to the temporal lobe can result in hair-trigger violent reactions and increased aggressive responses. As a child, Ken Bianchi fell off of a jungle gym, and landed on the back of his head. He soon began to have epileptic seizures.

Researcher Dominque LaPierre believes that the "prefrontal cortex, an area of the brain involved in long-term planning and judgment, does not function properly in psychopathic subjects." Paleopsychologists also believe that there is some sort of malfunction in the brain of serial killers, that somehow their primitive brain overrides the "higher" brain: reason and compassion take a backseat to lust, aggression, and appetite. A study by Pavlos Hatzitaskos and colleagues reports that a large portion of death-row inmates have had severe head injuries, and that approximately 70% of brain-injured patients develop aggressive tendencies.

Some of these brain injuries are accidental, but many of them were inflicted during childhood beatings. Among the many serial killers who had suffered head injuries are Leonard Lake, David Berkowitz, Kenneth Bianchi, John Gary, and Carl Panzram, who, as a child, had some sort of head infection. "Finally my head swelled up as big as a balloon. ... I was operated on in our own home. On the kitchen table," he wrote. "I would sure like to know if this is the cause of my queer actions." Ted Bundy, however, had extensive X-rays and brain scans, which revealed no evidence of brain disease or trauma.

No Fear
Crime Times reports on findings that psychopaths have a greater fear threshold, and are less likely to respond to fear-inducing stimuli, such as sudden, loud noises. In other words, psychopaths may be immune to fear. The psychopath's heart rate and skin temperature are low, and their "startle reaction" was substantially less than the average person. The autonomic nervous system of intensely violent people is intensely sluggish. ... They need a higher level of thrill or stimulation in order to have an intense experience," says forensic psychologist Shawn Johnston.

**Sensory deprivation**

Studies show that the lack of physical touch can be harmful to the child's development. In a study of chimpanzees, the babies who were not handled became withdrawn, and later began to attack others. Some serial killers had been separated from parents at early age, or were denied their mother's love and physical touch.

**Conclusion**

These physiological characteristics, however, do not guarantee a serial killer. Many, who are not violent, have brain injuries and biological abnormalities. A lump on the head is no singular forecast for a serial killer. Can evil be reduced to a chemical equation? Perhaps it is a combination of environment and chemical predispositions. What we do know is that no singular pattern emerges for serial killers. Many of these biological studies are new, so perhaps in the future the chemical profile of serial killers will be revealed.

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**Criminal profiling: the reality behind the myth**


For 16 years, "mad bomber" George Metesky eluded New York City police. Metesky planted more than 30 small bombs around the city between 1940 and 1956, hitting movie theaters, phone booths and other public areas.

In 1956, the frustrated investigators asked psychiatrist James Brussel, New York State's assistant commissioner of mental hygiene, to study crime scene photos and notes from the bomber. Brussel came up with a detailed description of the suspect: He would be unmarried, foreign, self-educated, in his 50s, living in Connecticut, paranoid and with a vendetta against Con Edison--the first bomb had targeted the power company's 67th street headquarters.

While some of Brussel's predictions were simply common sense, others were based on psychological ideas. For instance, he said that because paranoia tends to peak around age 35, the bomber, 16 years after his first bomb, would now be in his 50s. The profile proved dead on: It led police right to Metesky, who was arrested in 1957 and confessed immediately.

In the following decades, police in New York and elsewhere continued to consult psychologists and psychiatrists to develop profiles of particularly difficult-to-catch offenders. At the same time, though, much of the criminal profiling field developed within the law enforcement community--particularly the FBI.

Nowadays profiling rests, sometimes uneasily, somewhere between law enforcement and psychology. As a science, it is still a relatively new field with few set boundaries or definitions. Its practitioners don't always agree on methodology or even terminology. The term "profiling" has caught on among the general public, largely due to movies like "The Silence of the Lambs" and TV shows like "Profiler." But the FBI calls its form of profiling "criminal investigative analysis"; one prominent forensic psychologist calls his work "investigative psychology"; and another calls his "crime action profiling."

Despite the different names, all of these tactics share a common goal: to help investigators examine evidence from crime scenes and victim and witness reports to develop an offender description. The description can include psychological variables such as personality traits, psychopathologies and behavior patterns, as well as demographic variables such as age, race or geographic location. Investigators might use profiling to narrow down a field of suspects or figure out how to interrogate a suspect already in custody.

"In some ways, [profiling] is really still as much an art as a science," says psychologist Harvey Schlossberg, PhD, former director of psychological services for the New York Police Department. But in recent years, many psychologists--together with criminologists and law enforcement officials--have begun using psychology's statistical and research methods to bring more science into the art.

**How does profiling work?**

Informal criminal profiling has a long history. It was used as early as the 1880s, when two physicians, George Phillips and Thomas Bond, used crime scene clues to make predictions about British serial murderer Jack the Ripper's personality.

At the same time, profiling has taken root in the United States, where, until recent decades, profilers relied mostly on their own intuition and informal studies. Schlossberg, who developed profiles of many criminals, including David Berkowitz--New York City's "Son of Sam"--describes the approach he used in the late 1960s and 70s: "What I would do," he says, "is sit down and look through cases where the criminals had been arrested. I listed how old [the perpetrators] were, whether they were male or female, their level of education. Did they come from broken families? Did they have school behavioral problems? I listed as many factors as I could come up with, and then I added them up to see which were the most common."

In 1974, the FBI formed its Behavioral Science Unit to investigate serial rape and homicide cases. From 1976 to 1979, several FBI agents--most famously John Douglas and Robert Ressler--interviewed 36 serial murderers to develop theories and categories of different types of offenders.

Most notably, they developed the idea of the "organized/disorganized dichotomy": Organized crimes are premeditated and carefully planned, so little evidence is found at the scene. Organized criminals, according to the classification scheme, are antisocial but know right from wrong, are not insane and show no remorse. Disorganized crimes, in contrast, are not planned, and criminals leave such evidence as fingerprints and blood. Disorganized criminals may be young, under the influence of alcohol or drugs, or mentally ill.

Over the past quarter-century, the Behavioral Science Unit has further developed the FBI's profiling process--including refining the organized/disorganized dichotomy into a continuum and developing other classification schemes.

"The basic premise is that behavior reflects personality," explains retired FBI agent Gregg McCrary. In a homicide case, for example, FBI agents glean insight into personality through questions about the murderer's behavior at four crime phases:

- **Antecedent**: What fantasy or plan, or both, did the murderer have in place before the act? What triggered the murderer to act some days and not others?
Method and manner: What type of victim or victims did the murderer select? What was the method and manner of murder: shooting, stabbing, strangulation or something else?

Body disposal: Did the murder and body disposal take place all at one scene, or multiple scenes?

Postoffense behavior: Is the murderer trying to inject himself into the investigation by reacting to media reports or contacting investigators?

A rape case is analyzed in much the same way, but with the additional information that comes from a living victim. Everything about the crime, from the sexual acts the rapist forces on the victim to the order in which they're performed, offers a clue about the perpetrator, McCrary says.

Psychology's contributions

Although the FBI approach has gained public attention, some psychologists have questioned its scientific solidity. Ressler, Douglas and the other FBI agents were not psychologists, and some psychologists who looked at their work found methodological flaws.

Former FBI agent McCrary agrees that some of the FBI's early research was rough: "Early on it was just a bunch of us [FBI agents] basing our work on our investigative experience," he says, "and hopefully being right more than we were wrong."

McCrary says he believes that they were right more than wrong, though, and emphasizes that FBI methods have improved since then. In the meantime, psychologists have also been helping to step up profiling's scientific rigor. Some psychologists have been conducting their own criminal profiling research, and they've developed several new approaches:

- **Offender profiling.** Much of this work comes from applied psychologist David Canter, PhD, who founded the field of investigative psychology in the early 1990s and now runs the Centre for Investigative Psychology at the University of Liverpool.

  Investigative psychology, Canter says, includes many areas where psychology can contribute to investigations—including profiling. The goal of investigative psychology's form of profiling, like all profiling, is to infer characteristics of a criminal based on his or her behavior during the crime. But, Canter says, the key is that all of those inferences should come from empirical, peer-reviewed research—not necessarily from investigative experience.

  For example, Canter and his colleagues recently analyzed crime scene data from 100 serial homicides to test the FBI's organized/disorganized model. Their results, which will be published in an upcoming issue of APA's *Psychology, Public Policy and Law*, indicate that, in contrast to some earlier findings, almost all serial murderers show some level of organization.

  Organized behaviors—like positioning or concealing a victim's body—are the "core variables" that tend to show up most frequently and co-occur with other variables most often, he found. The differences between murderers, the researchers say, instead lie in the types of disorganized behaviors they exhibit. The study suggests that serial murderers can be divided into categories based on the way they interact with their victims: through sexual control, mutilation, execution or plunder.

  Canter says that research like this, which uses the statistical techniques of psychology to group together types of offender behaviors, is the only way to develop scientifically defensible descriptions and classifications of offenders.

  "Our approach," he says, "is to consider all the information that may be apparent at the crime scene and to carry out theory-based studies to determine the underlying structures of that material."

  In another study, he and his colleagues collected crime scene data from 112 rape cases and analyzed the relationship among different crime scene actions—from what types of sexual acts the rapist demanded to whether he bound the victim. The researchers found that the types of sexual violation and physical assault did not distinguish rapists from each other; these were the core variables that occurred in most rape cases. Instead, what distinguished the rapists into categories were nonphysical interactions—things like whether they stole from or apologized to the victim.

  Canter puts little faith in the investigative experience-derived offender descriptions developed by law-enforcement agents. As he sees it, psychologists need to work from the ground up to gather data and classify offenders in areas as various as arson, burglary, rape and homicide.

- **Crime action profiling.** Forensic psychologist Richard Kocsis, PhD, and his colleagues have developed models based on large studies of serial murderers, rapists and arsonists that act as guides to profiling such crimes. The models, he says, are similar to the structured interviews clinical psychologists use to make clinical diagnoses. They come out of an Australian government-funded research program that Kocsis ran, in which he developed profiling methods in collaboration with police and fire agencies.

  Now in private practice, Kocsis says crime action profiling models are rooted in knowledge developed by forensic psychologists, psychiatrists and criminologists. Part of crime action profiling also involves examining the process and practice of profiling.

  "Everybody seems to be preoccupied with developing principles for profiling," Kocsis explains. "However, what seems to have been overlooked is any systematic examination of how to compose a profile. What type of information do, or should, profiles contain? What type of case material do you need to construct a profile? How does the presence or absence of material affect the accuracy of a profile?"

  He has studied, for example, whether police officers perceive the same profile to be more accurate and useful when they believe it was written by a professional profiler rather than a layperson.

  Kocsis agrees that the future of profiling lies in more empirically based research. He also believes, though, that just as some clinicians are better than others, there is also a skill element involved in profiling. Is profiling an art or a science? "Realistically, I think it is probably a bit of both," he says.

The psychology-law enforcement relationship

Among those in the profiling field, the tension between law enforcement and psychology still exists to some degree. "The difference is really a matter of the FBI being more oriented towards investigative experience than [academic psychologists] are," says retired FBI agent McCrary.

"But," he adds, "it's important to remember that we're all working toward the same thing."

In recent years, the FBI has begun to work closely with many forensic psychologists—in fact, it employs them. Psychologist Stephen Band, PhD, is the chief of the Behavioral Science Unit, and clinical forensic psychologist Anthony Pinizzotto, PhD, is one of the FBI's chief scientists.

The unit also conducts research with forensic psychologists at the John Jay College of Criminal Justice in New York. One recent collaborative study, for example, looked at the relationship between burglaries and certain types of sexual offenses—whether specific aspects of a crime scene differed in incidents that began as a burglary and ended in a sexual offense, as opposed to crimes that began as a sexual offense but
included theft. Police looking at the first type of crime might want to look for convicted burglars in the area, Pinizzotto explains. The study will be published in an upcoming issue of Sex Offender Law Report, published by the Civic Research Institute.

One of the FBI's collaborators at John Jay College is Gabrielle Salfati, PhD, a graduate of the Centre for Investigative Psychology. "Whenever we do research, we try to bring in as many varied points of view as possible," Pinizzotto says. "Gabrielle Salfati's expertise on the statistical aspects of evaluating crime scenes is a great contribution."

More recently, the unit has also begun to collaborate with forensic psychologists at Marymount University in Arlington, Va. -- another indication that law enforcement and psychology will continue to work together.

"I think," says Band, "that there is an incredible value added when applications of professional psychology enter into the mix of what we do."

*Based on readings “What Makes Serial Killers Tick?” and “Criminal profiling: the reality behind the myth” AND viewing Ted Bundy (from Biography Channel), Inside Evil: Jeffrey Dahmer, and Serial Killers: Criminal Profilers, ***Please answer questions on a separate sheet of paper***

1. In the article, What Makes Serial Killers Tick: Natural Born Killers, is the idea that nature or nurture causes someone to become a serial killer?

2. Explain 3 of the biological abnormalities that psychiatrists have studied that may have links to psychopathic behavior.

3. What are 3 of the brain defects that are described and how could they lead to abnormal behavior?

4. How could a high fear threshold lead to violence?

5. Did Ted Bundy fit any of the potential biological factors that could lead someone to be a killer? If so, which ones?

6. Did Jeffery Dahmer fit any of the potential biological factors that could lead someone to be a killer? If so, which ones?

7. What conclusions did the author of the article draw as to the likelihood that people could be biologically predisposed to murder?

8. Do you believe that there is such a thing as “natural born killers”? Why or why not?

9. What is “criminal profiling” and how can it be used to help law enforcement?

10. Why can criminal profiling also be considered “investigative psychology”?

11. How does profiling work?

12. What has psychology contributed to the criminal profiling approach?

13. In the case of the Atlanta murders (young black children and young adults), what led police to the killer?

14. In the case of the Alaska murders (exotic dancers), what led police to the killer?

15. In the case of the South Carolina murders (two girls), what led police to the killer?

16. Why is it important for police and psychologists to have a strong relationship?

17. **Criminally Insane Legal Defense**: A defense asserted by an accused in a criminal prosecution to avoid liability for the commission of a crime because, at the time of the crime, the person did not appreciate the nature or quality or wrongfulness of the acts.

   The insanity defense is used by criminal defendants. The most common variation is cognitive insanity. Under the test for cognitive insanity, a defendant must have been so impaired by a mental disease or defect at the time of the act that he or she did not know the nature or quality of the act, or, if the defendant did know the nature or quality of the act, he or she did not know that the act was wrong. The vast majority of states allow criminal defendants to invoke the cognitive insanity defense. (source: [http://legal-dictionary.thefreedictionary.com/Criminally+insane](http://legal-dictionary.thefreedictionary.com/Criminally+insane))

   Do you believe that any of the murderers we learned about in class could be classified as legally insane? Why or why not?