

Brain scans suggest some are born with violent tendencies

By Rob Stein=(c) 1998. The Washington Post

An engineer in his forties, described as friendly and outgoing by neighbors, flies into a rage in the midst of a family argument and brutally beats his wife and 13-month-old daughter to death with a champagne bottle he has just emptied.

A grocery store robber armed with a sawed-off shotgun shoots an employee who happens to walk in unexpectedly.

A 21-year-old man, who has a "quick temper" but is well-liked by his neighbors, goes back to the auto parts store from which he'd been fired and kills, execution-style, three of his former co-workers.

Sociologists, psychiatrists, criminologists and others have long struggled to understand what makes some people turn violent. Childhood abuse clearly can be a major factor in predisposing someone to violence as an adult. But researchers have wondered whether some people are born with the tendency. And a new study suggests some are.

In the first study of its kind, neuroscientists used the latest high-tech imaging technology literally to peer inside the minds of killers to try to determine whether their brains differ in some fundamental way.

"For a long time, we seemed to know that antisocial groups may be characterized by some kind of brain dysfunction. But the measure of brain dysfunction was indirect," said Adrian Raine, a clinical neuroscientist at the University of Southern California in Los Angeles who led the study. "This is the first, the largest, and the most comprehensive brain imaging study on seriously violent crime to date."

They found evidence that some people are born with brains that may make them prone to violence, perhaps because the part of their brains involved in creating a sense of "con-

science" is dysfunctional, Raine said.

Raine and his colleagues identified 38 murderers, including the three described above, and reviewed court records, attorney interviews, medical and psychological records and newspaper articles to determine which had suffered trauma during their child-

"For a long time, we seemed to know that antisocial groups may be characterized by some kind of brain dysfunction. But the measure of brain dysfunction was indirect,"

Adrian Raine, a clinical neuroscientist at the University of Southern California

hood, including physical or sexual abuse, severe neglect, extreme poverty, severe family conflict and parental divorce. Of the murderers, 12 had suffered significant abuse or deprivation. The remaining 26, including the three described above, experienced minimal abuse or none at all.

The researchers then used positron emission tomography (PET), a technique that can measure activity of various parts of the brain, to compare those who had suffered trauma as children with those who had not, and with a group of people who had not committed any violent acts.

Compared with the subjects who had suffered abuse and with nonviolent people, the 26 murderers from comparatively benign backgrounds averaged 5.7 percent less activity in a part of the brain known as the medial prefrontal cortex. More significant, they showed an average of 14.2 percent less activity in a part of the medial prefrontal cortex known as the orbitofrontal cortex, on the right

hemisphere. Head injuries or mental illness could not explain the differences.

The medial prefrontal cortex, located just behind the forehead, has been shown in animal research to be involved in inhibiting the limbic system, a region located much deeper inside the brain that produces aggressive behavior. "The prefrontal cortex is a bit like an emergency brake on a car. It's like the emergency brake on the deeper areas of the brain that are involved in aggressive feelings," Raine said.

Animal research also has shown that the right orbitofrontal cortex, which is just above the right eye, is involved in fear conditioning — the subconscious association between antisocial behavior and punishment that in humans is thought to be key to developing a sense of "conscience."

"When you train a dog, you punish it every time it does something wrong. That's how they learn to follow social rules," Raine said. "A conscience is really just a set of conditioned responses."

The deficit revealed in the study may leave individuals with "an emotionally blunted personality lacking in conscience development," Raine and his colleagues wrote in reporting their findings last week in the journal *Neuropsychiatry, Neuropsychology, and Behavioral Neurology*.

The research could help explain why some people who had not suffered traumatic childhoods still become violent. "People always suspect that it was those with the adverse childhood experiences who were the ones with brain dysfunction. We found it was the ones with the benign home backgrounds who showed the dysfunction," Raine said in a telephone interview.

"Coming from a deprived background, the reasons for your violence may be the child sexual abuse or poverty or whatever," he said. But "if you are a violent offender, and you have a

relatively normal home background, it's more likely that biological factors like brain dysfunction...

... explanation for your violent behavior," he said.

"There are a lot of parents out there who, despite all of their best efforts, their children go off the rails and they commit violent offenses. And the parents feel desperately guilty and there's a lot of soul searching — 'What did I do wrong?' " he said. "The fact that there is an identifiable biological disposition suggests it's not how the child was raised. It's that they had a biological dysfunction, combined with a situation, that led to the violence."

Raine cautioned that human behavior is extremely complicated and tends to be influenced by a complex and often subtle interaction of social and biological factors.

"There are a lot of factors involved in crime. Brain function is just one of those," he said. "But by understanding the brain function, we will be in a much better position to understand the complete causes of violent behavior."

Other researchers praised Raine's study. "I think it's original work that's quite important," said Jan Volavka, a professor of psychiatry at New York University.

But some said that while Raine's research is interesting, they were highly skeptical that brain dysfunction alone could predispose someone to violence.

"By and large our findings suggest that neurologic impairment alone does not cause violence because most neurologically impaired people are not violent," said Dorothy O. Lewis, who studies violence at New York University and Yale University. "It impairs judgment and increases emotionality and a tendency to lash out. But if you raise a child who has brain dysfunction in a reasonably supportive household, that person will learn to handle that volatility."

RAND study calls high school's condom program a success

By Thomas H. Maugh II=(c) 1998, Los Angeles Times

LOS ANGELES — A free condom program at a Los Angeles County high school has increased sexual safety without any corresponding increase in sexual activity, according to a new study being reported Tuesday by researchers at the RAND Corp.

The percentage of sexually experienced males using a condom each time they had intercourse rose by a third, from 37 percent to 50 percent, at the unnamed high school, according to a report in the journal *Family Planning Perspectives*.

But, rebutting the fears of condom distribution critics, the study found that the number of males and females who had ever had sex remained constant at 55 percent and 46 percent, respectively.

"This is just one study in one school district... but it is very encouraging," said Dr. Mark A. Schuster, a senior researcher at Santa Monica-based RAND and a pediatrician at UCLA. A study in New York recently obtained similar results, he noted. "It looks like these programs really can have the desired effect."

Response to the study was tepid, at best, however. Condom distribution "ceased to be controversial a couple of months after we started doing it," said Shel Erlich, a spokesman for the Los Angeles Unified School District. A condom distribution program was begun in 1992 in high schools in the school district and in the nearby Culver City and Santa Monica districts.

Although neither the school nor the school district were named, the study was conducted in a 2,500-student high school "that serves a racially and socioeconomically diverse community in Los Angeles County," the

report stated.

In the program, which began in April 1992, plastic packets containing two condoms were placed in baskets in four classrooms and outside the nurse's office. Students did not need permission to take them, and no counseling was required. A sign requested a quarter for each packet, but few students left any money. Between 1,800 and 2,000 packets were taken each month.

Schuster and his colleagues conducted an anonymous survey of the students about their sexual practices before the distribution began and one year after it started. Parental consent was required for the students to fill out the forms, and more than 40 percent did not complete the second form because of lack of such consent.

The study found almost no increase in condom use among experienced female students and a one-third increase among experienced males. But the results were more encouraging among the sexually naive.

The percentage of males who reported using a condom at first intercourse grew from 46 percent to 56 percent, while for those who had only recently initiated intercourse, the number rose from 65 percent to 80 percent. And among those who reported that they planned to use condoms when they had sex for the first time, the number rose from 62 percent to 90 percent among males and from 73 percent to 94 percent among females.

"There was a very large percentage of the students who had gotten condoms, opened them up and put them on their fingers," Schuster said. "If they engage in sex in the future, they are more likely to use them, and more likely to use them right, because they are more familiar with them."

Attacks on children throw Hanoi into panic

By David Lamb=(c) 1998, Los Angeles Times

HANOI, Vietnam — For the past two weeks, a mysterious young man has sped through this capital's streets, cutting the faces and hands of children passing on motor scooters driven by their parents.

Though none of the 14 attacks, apparently done with a razor, has resulted in serious injury, Hanoi has been thrown into panic. Not for years has a single subject so dominated conversation and front-page media attention — and not since the war has violence so altered the lives of so many.

"This kind of thing has never happened in Hanoi before," said a television cameraman. "Never. It's unimaginable. In New York, yes, this could happen. In Hanoi, no."

Fearful of more attacks, parents are keeping children home, reducing school attendance by 25 percent in some cases. They are rushing out to buy helmets — gear Vietnam's 5 million motor scooter users virtually never wear — to protect youngsters' faces; in the past week, the price of a locally made helmet has doubled to the equivalent of \$5. Security guards have been posted at gates of many schools and students who still ride to school on the back of parents' scooters are apt to arrive wrapped in towels and dressed in thick winter jackets to ward off possible razor attacks. Some children travel the streets with baskets over their heads.

At Chu Van An school, Vice Director Dinh Viet Hung canceled after-school tutoring for 100 students. Parents, he said, wanted their children home early to avoid "face cutting."

The entire Hanoi police force has been mobilized and Chief Pham Chuyen has urged local people's committees to help find the attacker — but not to employ vigilante justice if they do.

While street life appears unaffected, except for those with children, residents here say that not since the American Christmas bombing in 1972 has Hanoi known such fear; not since French colonial days, when some sup-

ported France and some Ho Chi Minh, have residents had to wonder whether passersby were friend or foe.

But if Hanoi's response is as remarkable as the attacks themselves, there is reason. This metropolis of 3 million has minuscule crime rate. With few exceptions, the streets are safe at any time, even for a lone pedestrian; senseless, random violence — particularly involving children in a society that cherishes its young — is unheard of.

Something else, too, may account for Hanoi's stunned reaction. These razor attacks come at a time of:

—Increasing drug use, with 2,552 such arrests nationwide in the first three months of 1998.

—An upsurge in youths racing motorbikes through nighttime city streets; 23 bikes were confiscated by Hanoi police in one incident.

—Rising divorces, with almost 50,000 a year in Hanoi alone.

—A growing number of prostitutes — estimated at 52,000 in the nation — and a small (8,000) but growing group of HIV-positive young people.

In a country where half the population wasn't born when the last Americans fled Saigon in 1975, many see these "social evils" as a warning that the discipline of Vietnam's war years is breaking down. Some think that the nation's newly liberalized economy is creating a class of wayward, undirected youth with too much money and free time.

And rather than dismissing the attacks as the work of a sick individual, the Vietnamese media have offered a myriad of theories. Some reports suggest the attacker is added by a new drug whose users are mesmerized by blood; others say he has AIDS and is using poisoned razors to seek revenge against society. Still others say the assaults are a marketing gimmick by helmet sellers to drive up the price of their goods.

Police have made little headway in their investigation, other than identifying the attacker as a dark-haired man, 20 to 25 years old. He drives a Vina Suzuki motor scooter. The 14 victims have been between ages 4 and 13.

States try to rein in tribal gaming boom

By Edward Walsh=(c) 1998, The Washington Post

It is a new and remarkably successful business that has created hundreds of jobs and provided economic benefits to some of California's most disadvantaged citizens. But unless there is a break in a longtime impasse, federal authorities, acting at the behest of state officials, may soon move to close it down.

The business is casino gambling, which has been operating — illegally in the view of California officials — since the early 1990s on about 40 of the state's Indian reservations. In March, Republican Gov. Pete Wilson signed an agreement regulating Indian-run casinos with one tribe near San Diego and is demanding that the state's other tribes accept similar arrangements or risk losing their gambling ventures.

Wilson called the agreement, formally known as a compact, a "groundbreaking" achievement, but many California tribes are resisting the terms, which include a limit on the number and type of slot machines allowed in tribal casinos. "It is a direct infringement on our sovereignty," said Daniel Tucker, chairman of the California-Nevada Indian Gaming Association.

The California showdown is the latest and most dramatic skirmish between state and tribal governments over the size, shape and future of Indian gaming. The disputes have been going on since 1988 when Congress, responding to a Supreme Court ruling that states could not regulate gambling operations on Indian reservations, enacted a law that attempted to reassert some regulatory authority.

It required states to negotiate compacts with tribes within their borders on the terms under which legal gambling would be allowed. It also required the states to let Native American tribes conduct any type of gambling activity that was not prohibited by state law.

Since then, the stakes have grown dramatically. From a few scattered and isolated reservation bingo halls, Indian gaming, which generated \$570 million in revenue in 1990, has become an estimated \$7 billion a year industry. According to the National Indian Gam-

ing Commission, which regulates the casinos and other tribal gambling ventures, 188 tribes — out of a total of 558 federally recognized tribes — operate 285 gambling facilities in 28 states.

There is no question that the gambling has been good for Native Americans, particularly those like the Mashantucket Pequot of Connecticut who have reservations near major population centers and have opened the kind of large, glitzy casinos that a few years ago were confined to Las Vegas or Atlantic City. Most of the money produced in the casinos has been invested in schools, health clinics and other reservation improvements, making gambling "the most successful economic development tool of this century" for Indian tribes, said Alan Fedman, director of enforcement for the National Indian Gaming Commission.

But growing competition and, as in California, hardening state attitudes have put new pressure on the Indian gaming industry.

"For the most part, it's been a shot in the arm," said Tadd M. Johnson, a member of the Bois Forte Band of Minnesota Chippewa and chairman of the Indian gaming commission. "But if you talk to tribes, they're very dubious about the future of gaming. They say everything else has been taken from us, and this is a phase we're going to go through."

In 1996, the Supreme Court gave states an important victory in their relations with Indian tribes. Under the 1988 law, state governments were required to negotiate with tribes in "good faith" in order to reach a compact or risk being sued by the tribes in federal court. But in a 5 to 4 decision, the high court ruled that Congress exceeded its authority when it gave tribes the right to sue states in gambling disputes.

Since the 1996 ruling, the number of compacts that have been successfully negotiated between Indian tribes and state governments has dwindled. Johnson told the National Gambling Impact Study Commission in March that only 14 tribal-state compacts were approved in 1996 and 1997.

"States are taking a harder line since Seminole (Tribe of Florida v. Florida)," the name of the Supreme Court case that led to the ruling, said

an Interior Department official who closely follows the Indian gaming industry.

There are also signs that state governments, watching the unexpected success of tribal gaming, are beginning to go after a larger slice of the pie. Under federal law, states may not tax Indian gaming revenue, although tribes generally pay a fee for government services.

In 1993 Connecticut set a precedent when it signed a compact with the Mashantucket Pequot requiring the tribe to share 25 percent of its revenue from slot machines with the state in return for a monopoly on slot machines. Last year the New Mexico state legislature, over tribal objections, required a 16 percent share of revenue in new gaming compacts.

Wisconsin is one of the first states to begin negotiations to extend gaming compacts that were originally signed in the early 1990s and has made clear that it will demand a huge increase in the size of payments from the tribes. Under the existing compacts, Wisconsin's 11 tribes have paid the state \$350,000 a year from their casino ventures, an amount state officials expect to soar to more than \$25 million a year under the new compacts.

"People feel it's very unfair for the tribes not to be on the same playing field as normal businesses are in Wisconsin," said Mark Bugher, the state's secretary of administration. "By and large, people here in Wisconsin support the concept of the tribes paying the state something in exchange for the privilege of enjoying a monopolistic status."

Bugher added that other states "are watching very carefully what is happening in Wisconsin."

Meanwhile, growing competition from the spread of gambling throughout the country — a phenomenon fueled in part by the success of Indian gaming — is becoming more of a factor for the tribes. Michigan's Indian tribes will soon lose their monopoly on casino gambling in that state when three new casinos open in downtown Detroit.

In California, Wilson, an opponent of legalized gambling, and the state's Indian tribes have been at odds over the issue for years. States, however, are

not empowered to act against Indian tribes — sovereign nations under U.S. law — and federal authorities have withheld enforcement action against the tribal casinos while hoping for a negotiated settlement.

But that changed in March when Wilson announced agreement on a gambling compact with the Pala Band of Mission Indians, which does not operate a casino, and U.S. attorneys in California threatened enforcement action next month against tribes that continue to run casinos without a compact with the state. Under the "model compact," no Indian tribe could operate more than 975 video gaming devices. To circumvent California's constitutional ban on Las Vegas-style casino gambling, a new type of video device, based on the state lottery, is being developed to replace existing video slot machines.

And in an attempt to force tribes with casinos to share some of their profits with other tribes that are not in the gambling business, the compact would allocate 199 of the new type machines to every tribe in the state. Those that did not want to operate a casino could then rent their allotment to the tribes that do have casinos, earning as much as \$1 million a year.

To many tribal leaders, the California compact is an attack on their political sovereignty. "The Pala band has a right to negotiate what it thinks is good for it," said Tim Wapato, executive director of the National Indian Gaming Association, a trade group composed of tribes that operate casinos. "What isn't right is for California to say each tribe can only have 199 machines and each tribe is held to the language of the Pala agreement. ... If somebody tried to do that with the 50 states, the governors would be up in arms, saying you can't dictate to us how we're going to run our gaming operations."

California officials retort that the model compact is a way to allow tribes to continue in the gaming business but within the confines of state law, which is what the 1988 federal legislation authorized. "These tribes should never have been operating without a compact in the first place," said Daniel Kolkey, Wilson's counsel. "They never had the right to do what they're doing."