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Can Jury Trial Innovations Improve Juror Understanding of DNA Evidence?

by B. Michael Dann, Valerie P. Hans, and David H. Kaye

Preparing for the Future: Criminal Justice in 2040

by Nancy M. Ritter

Does Parental Incarceration Increase a Child's Risk for Foster Care Placement?

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Understanding and Applying Research on Prostitution

by Marilyn C. Moses

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DIRECTOR'S MESSAGE

A masked robber bursts into a bank, brandishing a gun. A terrified teller hands him a bundle of cash. Within seconds, he is gone. Witnesses cannot describe the robber's face, but tell police that he wore a blue hooded sweatshirt and gloves.

Although they have no physical description of the suspect, investigators locate critical evidence outside the bank: a blue hooded sweatshirt, a glove, and some of the money stolen during the robbery. The most crucial piece of evidence, though, is silently tucked away inside the hood of the sweatshirt: two human hairs. They are analyzed and found to match a suspect's mitochondrial DNA.

Police charge the suspect with armed robbery. At the trial, he denies committing the robbery, and points a finger at his half-brother on his father's side. With no eyewitness identification, the jury at the suspect's trial is left with a single question: does the DNA evidence establish guilt beyond a reasonable doubt?

Forensic DNA analysis is increasingly presented at trials. While police, lawyers, and judges may be familiar with the methods used to collect, analyze, and interpret DNA evidence, the learning curve for the group whose opinion matters most in the courtroom—the jurors—may be daunting.

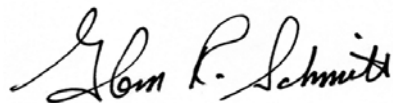
The cover story in this issue of the *NIJ Journal* discusses findings from a study that explores how jurors interpret complex DNA evidence and how certain tools can help them better understand DNA. NIJ-funded researchers conducted a mock jury trial and examined whether innovations, such as giving jurors a DNA checklist or notebook of information prepared before trial or allowing jurors to ask questions or take notes would improve jurors' grasp of DNA evidence. The researchers also propose steps to help ensure jurors have the necessary tools to comprehend what can be the most important evidence in a case.

I want to acknowledge the contribution of former NIJ Director Sarah V. Hart on this project. Sarah's support was a vital reason for its success.

Also featured in this issue of the *Journal* is an article profiling several NIJ-funded studies that are developing forensic markers to help determine when elder abuse has occurred. The dearth of research on this topic makes these studies essential to the success of efforts to prevent this abuse and prosecute those who commit these crimes.

Is a child at greater risk of being placed in foster care if his or her parent is incarcerated? What will the criminal justice system look like in the next few decades? And how can research on prostitution help solve homicide cases? This issue of the *Journal* explores findings from research on these topics.

The breadth of these articles exemplifies the wide-ranging scope of NIJ's research and our commitment to improving the criminal justice system. I hope you will find this issue of the *Journal* interesting and informative.



Glenn R. Schmitt
Acting Director, National Institute of Justice



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Can Jury Trial Innovations Improve Juror Understanding of DNA Evidence?

by B. Michael Dann, Valerie P. Hans, and David H. Kaye

About the Authors

The Honorable B. Michael Dann (Ret.) was a Visiting Fellow at the National Institute of Justice in 2004; Valerie P. Hans is a Professor at Cornell Law School; and David H. Kaye is a Regents' Professor at Arizona State University College of Law. University of Delaware doctoral candidates Stephanie Albertson and Erin Farley assisted with the research project.

A single spot of blood on a pink windowsill will tell investigators who broke a windowpane, turned a lock, and kidnapped 2-year-old Molly Evans from her bedroom in the middle of the night. An expert witness will testify that the DNA profile of the blood evidence recovered from the windowsill was entered into CODIS, an electronic database of DNA profiles.¹ That process yielded a "hit," identifying the defendant as the most likely source of the blood inside Molly's room.

But will jurors be able to understand the expert's intricate analysis and use it to reach a verdict? And what—if any—steps can be taken to increase jurors' comprehension of complex DNA evidence?

Questions such as these prompted an NIJ-funded study on the impact of jury trial innovations upon mock jurors' understanding of contested mitochondrial DNA (mtDNA) evidence. (See "How Mitochondrial DNA Compares to Nuclear DNA.") By examining how jurors in different experimental conditions performed on a Juror Comprehension Scale both before and after deliberations, researchers were able to assess whether four specific innovations improved jurors' understanding of this complex evidence and identify which innovations worked best.

Trial Innovations Tested

The four innovations used in the experiment were:

- **Juror note taking.** Mock jurors were given a steno pad and pen for note taking and were told that their notes would be available to them during deliberations.
- **Questions by jurors.** Mock jurors could submit questions to the presiding judge, who obtained answers from an offsite DNA expert.

■ **Mitochondrial DNA (mtDNA) checklists.**

This innovation guided jurors through complex mtDNA evidence by asking them a series of questions. (See “mtDNA Evidence Checklist.”)

- **Multipurpose juror notebooks.** Mock jurors were given notebooks containing paper, copies of the two experts’ slides, the mtDNA checklist, a glossary of DNA terms used in the case, and a witness list.

Selecting the Mock Jury

Jurors were selected from jury-eligible adults called to jury duty in the Superior Court of New Castle County, Delaware. Jurors were randomly assigned to 60 eight-person juries. Each juror filled out an initial questionnaire that queried his or her views on the reliability of certain types of scientific testimony and about science in general. (See “Mock Jurors’ Attitudes About Science and DNA.”)

Researchers then divided the juries into groups of 10 and subjected each group to one of the following conditions:²

Experimental Condition	Jury Innovations
Condition 1	No innovations (control)
Condition 2	Note taking
Condition 3	Question asking and note taking
Condition 4	DNA checklist and note taking
Condition 5	Juror notebook and note taking
Condition 6	All innovations (note taking, question asking, DNA checklist, and juror notebook)

The Mock Trial

The jurors then watched a videotape of an armed robbery trial. Prosecutors presented the testimony of bank employees who could not make a positive identification because the robber wore a blue hooded sweatshirt and a partial mask. However, one teller testified that she saw an unmistakable inch-long,

HOW MITOCHONDRIAL DNA COMPARES TO NUCLEAR DNA

Nuclear DNA, or nDNA, is the genetic material inherited from both parents (one-half from the mother and one-half from the father). It is found in the nucleus of each cell and is unique to each individual (except in cases of identical twins). Nuclear DNA is a powerful identifier and has been used for forensic purposes for decades. Mitochondrial DNA (mtDNA)—which is found in the mitochondria of a cell, outside of the nucleus and separate from nDNA—is inherited solely from the mother and is not unique. Everyone in the same maternal line, for generations, will have the same mtDNA. Its use as a forensic tool, in narrowing the pool of possible donors of a sample, is a more recent development.

horizontal scar on the suspect’s cheek when he wiped his face with his gloved hand.

Police searched the crime scene immediately after the robbery and recovered a blue sweatshirt, a glove, and a small amount of cash, including some of the “bait money.”³ Two human hairs recovered from the sweatshirt hood were analyzed and found to match the defendant’s mtDNA. No other physical evidence was recovered.

Jurors learned that an anonymous caller told police the defendant had robbed the bank. Testimony established that the defendant owned a blue hooded sweatshirt, had a scar on his cheek, and had recently been seen flashing a large roll of cash.

The defendant testified in his own defense and denied committing the robbery. He told a detective that he had never been in that bank and that he was at work when the robbery occurred. He claimed that the excess cash was from a friend’s recent repayment of a loan.

In an attempt to dispute the prosecution’s mtDNA evidence, the defense introduced evidence that the defendant’s wayward half-brother on his father’s side lived in town at the time of the robbery. This fact, however, would have been irrelevant to any juror who understood that mtDNA is inherited only through the mother’s lineage. Researchers made the rest of the circumstantial evidence purposefully ambiguous so that jurors would feel compelled to consider the mtDNA identification evidence

The multipurpose notebook was the most popular innovation: 92 percent of the jurors said that the notebooks—in particular, the expert’s slides—helped them to remember and understand the case.

MOCK JURORS’ ATTITUDES ABOUT SCIENCE AND DNA

Researchers found that the demographic profile (sex, race, and age) of the 480 mock jurors bore striking similarities to those of the entire pool of jury-eligible adults. Most mock jurors had some science or mathematics courses: on average, most had more than nine such courses in high school or college. About half had some job experience involving science or math.

Almost all (89 percent) of the mock jurors held positive attitudes about science. However, a significant minority expressed reservations about science. Negative attitudes about the role of science in their lives were strongly correlated with the level of formal education; jurors with less education tended to express more negative views.

Before the videotape was presented, researchers solicited jurors’ views about DNA. Two-thirds of mock jurors agreed that DNA evidence was “extremely reliable.” Although half of the participants had heard about mtDNA before this trial, most said they had heard only a “small amount” about it.

After the trial, however, almost all of the jurors had a basic understanding of the mtDNA evidence. Solid majorities of jurors (ranging from 66 to 90 percent) exhibited correct understandings of most of the core knowledge items about mtDNA—e.g., where the mitochondria are found in the cell, how samples are compared and matches declared, and how mtDNA compares to nuclear DNA.

Ninety percent of jurors correctly understood that unlike nuclear DNA, mtDNA is inherited solely from one’s mother. Those jurors rejected the defense suggestion that the crime could have been committed by the defendant’s wayward half-brother on his fathers’ side, noting

that the relationship would not account for the presence of the defendant’s mtDNA in the hair strands recovered from the hooded sweatshirt.

On the other hand, some of the participants showed a susceptibility to adversarial exaggerations and misstatements about the scientific evidence:

- A number of jurors were persuaded by the prosecutor’s argument that the likelihood of the defendant’s innocence was equal to the percentage of Caucasian males who could not be excluded as possible contributors of DNA found on the hooded sweatshirt. Because the prosecution’s expert estimated that 99.98 percent of Caucasian males would be excluded as contributors, prosecutors argued that there was only a .02 percent possibility that the defendant did not commit the crime. This rationale erroneously hinged the defendant’s guilt on one piece of evidence—hair found on a sweatshirt at the scene—while ignoring other circumstantial evidence that was not directly incriminating.
- Some jurors also agreed with the defense attorney’s questionable claim that the mtDNA evidence was entirely worthless because people other than the defendant could have contributed the hairs.
- One-quarter of the mock jurors thought that sample contamination was “likely” despite the absence of evidence or argument from either side suggesting contamination of the hair samples or the mtDNA.

As anticipated, the amount of formal education, the number of courses in science and mathematics, and some job experience involving science and mathematics positively correlated with jurors’ correct understanding of mtDNA.

and resolve the issues raised by the prosecution and defense experts.

Expert Testimony on mtDNA

The prosecution's expert testified that the mtDNA profiles of hair from the sweat-shirt and the samples combed from the defendant's head at the time of his police interview were an exact match. He commented that the profile was rare and had not been observed in the Federal Bureau of Investigation's (FBI's) mtDNA database of more than 5,000 samples. He added that 99.98 percent of all Caucasian males would be excluded as potential contributors of the two mtDNA samples. That meant that in addition to other men in the same maternal line as the defendant, only 6 males in a population of 29,000 would have the same mtDNA profile.

The defense expert agreed that the mtDNA samples matched, but said that the FBI's percentage of the population excluded by the mtDNA evidence was too large because the FBI failed to properly account for the possibility of "heteroplasmy" in human hair. Heteroplasmy is a condition where some of a person's mtDNA exhibits a mutation and thus differs (in at least one base pair) from the remainder of the person's mtDNA. By including heteroplasmic individuals as possible sources of the hairs, the defense expert reduced the FBI's percentage of excluded males to 99.80 percent. She projected that 57 males in the locality—as opposed to the prosecution's estimate of 6—could have been the source of the hairs.

After the videotape, jurors completed a second questionnaire about their uses of and attitudes toward trial innovations. They were then allowed to deliberate. Following the return of a unanimous verdict or the declaration of a mistrial (hung jury) in each case, jurors filled out a third and final questionnaire.

Researchers then coded and analyzed jurors' responses to the questionnaires and reviewed the jurors' written notes, copies of the checklist, and notebook materials. Questions posed by jurors

during the trial were also analyzed. All of the jury deliberations were videotaped, reviewed, and coded to assess the use of jury innovations in group deliberations.

Which Innovations Did Jurors Use?

The research showed that jurors used three of the innovations the most—the multipurpose notebook, note taking, and the mtDNA checklist.

The multipurpose notebook was the most popular innovation: 92 percent of the jurors said that the notebooks—in particular, the expert's slides—helped them to remember and understand the case. The second most used innovation was juror note taking: 88 percent of jurors took notes. Two-thirds said their notes helped them remember the evidence. The third most used innovation was the mtDNA checklist: 85 percent of jurors allowed to use the checklist said they reviewed it during deliberations. Most found that the checklist increased their understanding and recall of the evidence. The least used innovation was jury questioning: only 22 percent of the jurors allowed to ask questions actually did.

Which Innovations Enhanced Juror Understanding?

To see whether innovations improved juror understanding of mtDNA evidence, researchers explored how jurors in the different experimental conditions performed on Jury Comprehension Scales⁴ before and after their deliberations, controlling for jurors' educational levels.⁵ In general, researchers found that jury deliberations improved jurors' comprehension of mtDNA.

Prior to deliberations, there were no significant differences in how jurors who were assigned to the various conditions—those who used innovations and those who did not—performed on the Juror Comprehension Scale. Even after deliberations, comparisons of the responses of jurors given no innovations (control group) with those who had them still showed no significant differences in their understanding of mtDNA evidence.

mtDNA EVIDENCE CHECKLIST

1. Was the blue hooded sweatshirt found by the police probably the one worn by the bank robber?
 - Yes
 - No → Then the FBI's DNA analysis of the hair will not assist you in identifying the robber.
2. Did the FBI correctly identify the mtDNA sequences of the suspect (sweatshirt hood) and known (defendant's) samples of hair?
 - Yes
 - No → The results of the FBI's analysis of the hairs' mtDNA will not assist you in identifying the robber.
3. Did the FBI correctly conclude that the mtDNA sequences of the two hair samples matched?
 - Yes
 - No → The results of the FBI's analysis of the hairs' mtDNA will not assist you in identifying the robber.
- 4A. Did the FBI correctly calculate how often the hairs' mtDNA sequence is likely to occur in the Caucasian population?
 - Yes → 5A. What percent of the Caucasian population can be excluded as possible contributors of the mtDNA found on the sweatshirt hairs?
Answer _____%
 - No → 4B. Did the defendant's expert correctly calculate how often the hairs' mtDNA sequence is likely to occur in the Caucasian population?
 - Yes → 5B. What percent of the Caucasian population can be excluded as possible contributors of the mtDNA found on the sweatshirt hairs?
Answer _____%
 - No → Neither expert's testimony will assist you in identifying the robber.
6. How many Caucasian males in the Middletown area could have contributed the hairs found in the sweatshirt hood? (Check one.)
 - _____ 6 males (prosecution expert estimate)
 - _____ 57 males (defense expert estimate)
 - _____ Other number (your estimate: _____)
7. How likely is it that the defendant was the source of the hairs found in the sweatshirt hood? (Check one.)
 - _____ Extremely likely
 - _____ Somewhat likely
 - _____ Don't know
 - _____ Somewhat unlikely
 - _____ Extremely unlikely

However, when the postdeliberation responses of jurors allowed to use each particular innovation were compared with the responses of jurors not allowed to use that innovation (both those in the control group and those assigned another innovation), differences emerged. Under this analysis, researchers found that jurors allowed to use juror notebooks performed significantly better on two aspects of the comprehension testing (basic and expanded factual true-false tests) than those not provided notebooks. Jurors provided with an mtDNA checklist also performed better (on an expanded Jury Comprehension Scale) than those without access to the checklist.

Researchers also examined whether actual usage of an innovation improved juror understanding. The results were mixed. Data showed that jurors who took advantage of two innovations—note taking and question asking—did not have higher levels of comprehension; however, jurors who actually used the mtDNA checklist and the juror notebook significantly outperformed jurors who were afforded use of those innovations but declined to use them.

There was also evidence that use of multiple innovations improved juror comprehension. Using the note taking condition as a control, researchers found that jurors allowed to take notes and use a juror notebook did better on the Jury Comprehension Scales postdeliberation than did those allowed only to take notes. The same was true for jurors exposed to all four innovations—they also outperformed those jurors who were only allowed to take notes. Thus, it appears that additional innovations on top of jury note taking improves mock jurors' comprehension of scientific mtDNA evidence.

Practical Suggestions for Practitioners

Based on the study, researchers believe that the use of certain jury innovations has the potential to improve jurors' comprehension of mtDNA and other scientific evidence. Methods that provided direct guidance or additional expert information—such as the mtDNA checklist and the juror notebook—best improved juror understanding. This suggests that other jury innovations that

provide a better understanding of expert evidence—such as juror tutorials in complex subjects and court-appointed experts to discuss the parties’ often conflicting scientific evidence—are ripe for evaluation.

The results of the study showed that most juries are capable of comprehending and using different forms of DNA evidence at trial. Nonetheless, researchers acknowledged that some jurors are likely to have trouble with complex DNA evidence.

Researchers offered five ways to facilitate juror understanding of DNA evidence:

- Distribute juror notebooks that contain copies of the expert’s slides, overheads, and charts; a glossary of technical terms; a list of the issues presented by the DNA evidence; and blank paper for note taking.
- Distribute a checklist or inference chart listing the issues presented by the DNA evidence and provide a step-by-step pathway for the jurors’ resolution of those issues.
- Provide a brief, straightforward explanation of forensic DNA without burdening jurors with nonessential technical details about the analysis. Some deliberating jurors complained about “technical overload” of essentially uncontested matters.
- Allay fears of contamination—even in cases where there is no evidence it has occurred. A significant number of jurors believed sample contamination was a problem despite the total lack of evidence or argument by defense counsel to suggest it occurred.
- Encourage jurors to weigh the probative value of the DNA evidence linking the defendant to the crime with the value of other nonscientific evidence. Jurors attempt to combine both types of information to arrive at an opinion regarding guilt, but are unsure how to do so. Attorneys and experts should present simple, understandable approaches to considering the value of different types of evidence.

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For More Information

- Dann, B.M., V.P. Hans, and D.H. Kaye, *Testing the Effects of Selected Jury Trial Innovations on Juror Comprehension of Contested mtDNA Evidence*, final report submitted to the National Institute of Justice, Washington, DC: August 2005 (NCJ 211000), available at www.ncjrs.gov/pdffiles1/nij/grants/211000.pdf.

Notes

1. The Combined DNA Index System (CODIS) is an electronic database of DNA profiles administered through the Federal Bureau of Investigation. The system lets Federal, State, and local crime labs share and compare DNA profiles. Through CODIS, investigators match DNA from crime scenes with convicted offenders and with other crime scenes using computer software, just as fingerprints are matched through automated fingerprint identification systems. CODIS primarily uses two indexes: (1) the Convicted Offender Index, which contains profiles of convicted offenders, and (2) the Forensic Index, which contains profiles from crime scene evidence. The strength of CODIS lies in solving cases that have no suspects. If DNA evidence entered into CODIS matches someone in the offender index, a warrant can be obtained authorizing the collection of a sample from that offender to confirm the match. If the offender’s DNA is in the Forensic Index, the system allows investigators—even in different jurisdictions—to exchange information about their respective cases.
2. Juror note taking was permitted in all but the control condition because the more advanced techniques (such as question asking and juror notebooks) are unlikely to be offered by a court without the basic reform of note taking.
3. Bait money is cash that tellers are instructed to turn over in the event of a robbery. It contains prerecorded serial numbers, enabling investigators to identify the funds if recovered.
4. Researchers combined eight facts about mtDNA to develop a Juror Comprehension Scale that measured jurors’ understanding of mtDNA.
5. Researchers also controlled for juror membership on a particular jury by using a “nested” analysis. Because mock jurors in the study deliberated with one another, jurors potentially influenced one another. A nested analysis was used because juror’s responses post-deliberation were no longer strictly independent observations.

The use of certain jury innovations has the potential to improve jurors’ comprehension of mtDNA and other scientific evidence.



Preparing for the Future: Criminal Justice in 2040

by Nancy M. Ritter

About the Author

Nancy M. Ritter is a writer/editor at the National Institute of Justice.

What will criminal justice look like in 2040?

There's no question that terrorism, the growth of multicultural populations, massive migration, upheavals in age-composition demographics, technological developments, and globalization over the next three or more decades will affect the world's criminal justice systems. But how? What forces will have the greatest influence?

Weighing in on these questions are three leading criminal justice experts:

- Bryan J. Vila, former chief of the Office of Justice Programs' National Institute of Justice's Crime Control and Prevention Research Division and now a professor at Washington State University, emphasizes the need to understand the evolution—or more accurately, the coevolution—of crime and crime fighting.

- Christopher E. Stone, Daniel and Florence Guggenheim Professor of the Practice of Criminal Justice at Harvard University's John F. Kennedy School of Government, believes that a new global, professional culture will influence the world's criminal justice systems in the decades to come.
- David Weisburd, professor of criminology at the University of Maryland and Jerusalem's Hebrew University Law School, says that how criminal justice looks in 2040 will largely depend on the research path we take: Will developments in policies and technologies be based on clinical experience or on evidence?

The Coevolution of Crime and Justice

Bryan Vila observes that criminals, like viruses, evolve over time and change as their potential victims take preventive measures. For example, Vila notes, as people install steering wheel locks or

alarm systems to combat auto theft, thieves respond by using devices that neutralize such security systems.

Regardless of such coevolution across the wide range of crimes, *crime fighting*, Vila says, will continue to fall into three categories: reducing the opportunity for crime, changing the motivation of people who commit crimes, and altering people's fundamental values—including nurturing positive values in young children—to minimize the likelihood of future criminal behavior.

All this will have to be done within the context of changing demographics. As 2040 approaches, the proportion of males aged 15 to 29—traditionally, the most crime-prone group—will decline slightly, and the percentage of the over-30 population (and particularly those over 65) will increase substantially.

The impact? “There will be more people to be either victims or solutions,” Vila observes. For example, he explains, an increase in the elderly population could result in greater victimization, but it could also lead to more elderly people using their discretionary time to report crime and guide children.

Technological advances will also have a great influence on crime fighting. Developments in surveillance, biometrics, DNA analysis, and radio frequency identification microchips will enhance crime prevention and crime solving. Increasingly sophisticated intelligence databases will likely be used not only by police officers and analysts, but by the general public—as is now common with sex offender registries.

The future will also bring improvements in interoperability systems that allow officials to talk electronically to one another, particularly during emergencies. And, Vila concludes, better connection among people and agencies will lead to a decrease in the attractiveness and vulnerability of crime targets.

Technological advances will also have a great influence on crime fighting. Developments in surveillance, biometrics, DNA analysis, and radio frequency identification microchips will enhance crime prevention and crime solving.

Global Trends

Chris Stone predicts that global trends will play a significant role in how criminal justice is delivered throughout the world in 2040. Stone points to the dramatic growth in the number of foreign-born Americans and suggests that increasing diversity in populations will have a significant impact not only in the United States but worldwide.

Such growth has the potential for disharmony, Stone notes. In South Africa, for example, the court system now recognizes 11 official languages. As a result, lawyers may speak one language, the judge another, and the defendant, a third. Often, the only two people in the courtroom speaking the same language are the victim and defendant—with the judge, prosecutor, and defense lawyer relying on interpreters.

The lack of homogeneity extends beyond language to societal norms and expectations. What will foreign-born Americans expect of the U.S. justice system, given their experiences in their native countries? How will they regard the roles of the defense lawyer, prosecutor, and judge? Answers to these questions will shape the face of criminal justice in the decades to come.

Stone believes that a new professional culture is spreading through justice systems worldwide across five vectors:

Bilateral transfer of information between countries. The bilateral transfer of information can lead to changes in a country's criminal justice system. For example, a

The priority over the next three and a half decades should be to develop policies and technologies that will help policymakers, decisionmakers, and citizens realize a criminal justice system that is fair, equitable, and respectful.

delegation funded by the U.S. Agency for International Development travels to China to discuss prosecution systems. Thereafter, the Chinese host delegations from Germany and Australia. In the end, Stone observes, the Chinese are likely to mix and match, developing a hybrid system that is different from that of any other country—which, in turn, may influence others in Asia.

Multilateral innovation. In the first case before the International Crime Court, for example, the chief prosecutor is a Korean American from New York City. Working with colleagues from Argentina, Belgium, France, and Germany, the team is creating new methods, norms, and ethics that Stone believes will influence practices in each member's own domestic systems.

Global dissemination of justice products. The dissemination of justice products—such as court management computer systems, consulting services, and prison design—will also shape our criminal justice system in 2040. For example, Stone notes, a European-developed court management system has been successfully marketed in South Africa.

Hollywood. With its tremendous influence on attitudes about justice, Hollywood also stands to influence the development of criminal justice systems throughout the world. The television program *Law and Order* is currently viewed in more than 40 countries, and *CSI* in more than 22. Although entertainment, such programs affect people's expectations of the justice

system. For example, most countries do not try criminal cases in front of juries, yet American films and television create expectations that justice includes jury trials, perhaps lending support to the introduction of jury trials in Russia.

Empirical evidence. Comparative evidence about what works, what doesn't, and why will play a major role in how the world's justice systems look in 2040. Stone offers some ideas for comparative research that could impact criminal justice in the future:

- *Civilian oversight of police.* An essential element of justice, comprehensive systems for civilian management are rapidly developing in many countries.
- *Prosecution.* More than a dozen countries in Latin America, for example, are exploring new roles for prosecutors, which could lead to a new relationship with victims and new systems for plea bargaining.
- *Indigent defense.* Pilot projects to improve public defense—which, Stone believes, is weak everywhere—are underway in Africa, Eastern Europe, and England, with alluring potential for comparative research.

Which Path to Take?

David Weisburd believes that the nature of criminal justice in 2040 will depend in large part on the primary research methodology. Is the criminal justice community better served by relying on the experiences and opinions of practitioners (the clinical experience model) or by research that tests programs and measures outcomes (the evidence-based model)?

Currently, the clinical experience model is the research path most frequently followed. Policies and technologies are based primarily on reports from practitioners about what they have found to work or not work. Sharing approaches and programs that seemed to work in one community with another community allows for quick application of successful ideas. The downside of this model is that a program may be widely adopted before scientific research

demonstrates its efficacy in more than one place or application. For example, in one youth program aimed at reducing delinquency, counselors and parents believed that the treatments were effective, based on initial measures of success. However, subsequent evaluation revealed that participation in the program actually increased the risk of delinquency.

In the evidence-based model, a new program undergoes systematic research and evaluation before it is widely adopted. Now dominant in medicine—and becoming more popular in other areas such as education—the evidence-based model has been used successfully in criminal justice. For example, hot-spot policing (a policy adopted in the early 1990's that focuses police resources in high-crime areas) was preceded by studies that demonstrated its effectiveness.

But the evidence-based model also has shortcomings. Research requires a large investment of time and money, and many practitioners understandably would rather spend resources implementing an innovation than wait for confirming research. Time—always a precious commodity for policymakers and practitioners—can be a particularly frustrating component of the evidence-based model. Credible research requires time to adequately test an approach, often in more than one jurisdiction, before communities can adopt it on a large scale.

“Policymakers want to improve things while they have the power,” Weisburd says. “They are under pressure to make an impact—so there is tension between the slowness of the evidence-based process and the pressure to move quickly.”

Making the Evidence-Based Model Realistic

Weisburd proposes making the evidence-based model “more realistic.” He believes this can be done by:

- Streamlining the process of developing evidence and conducting evaluations.

- Building an infrastructure to ensure that studies do not reinvent the wheel.
- Devising methods for getting studies off the ground faster, such as encouraging funders to help in the development of high-quality randomized experimental studies.
- Reinforcing a culture that emphasizes the exploration of which programs and practices do and do not work.

Weisburd also argues that Federal investment in the scientific evaluation of new practices and programs must be increased. Researchers and practitioners must insist that “if you want us to make intelligent policy and not waste money by prematurely innovating in hundreds of departments, you must give us more money.”

Global Alliances

All three experts emphasize the need to find new ways to work with professionals around the globe. For example, the Vera Institute in the United States has formed an alliance with academic and nonprofit organizations in other countries to conduct evaluations of the criminal justice process, from policing through sentencing.

Ultimately, Vila, Stone, and Weisburd agree, the world of 2040 will have a more shared culture due to such trends as globalization, mobility, and spreading diversity. Within this context, the priority over the next three and a half decades should be to develop policies and technologies that will help policymakers, decisionmakers, and citizens realize a criminal justice system that is fair, equitable, and respectful.

Bryan J. Vila, Christopher E. Stone, and David Weisburd spoke at NIJ's Annual Research and Evaluation Conference in July 2004.

NCJ 215456



Does Parental Incarceration Increase a Child's Risk for Foster Care Placement?

by Marilyn C. Moses

About the Author

Marilyn C. Moses is a Social Science Analyst at the National Institute of Justice.

Common wisdom holds that children are at greater risk of being placed in the foster care system when a parent is incarcerated.¹ But interim findings from an ongoing NIJ-funded study reveal that there may be no such correlation for mothers; in fact, many of the mothers had lost custody of their children before they were incarcerated—in some cases, as many as 3 years earlier.

The study, which was jointly funded by grants from NIJ, the Chicago Community Trust, the Open Society Institute, and the Russell Sage Foundation, was awarded to researchers at the University of California and the University of Chicago. Researchers are focusing on mothers who were incarcerated in Illinois State prisons and the Cook County (Chicago) jail from 1990 to 2000. They are matching the

mothers' incarceration data with data about their children's foster care placement.² The study is examining what—if any—connection exists between a parent's incarceration and a child's risk of being placed in foster care.

Which Came First?

Researchers found that slightly more than one-fourth (27 percent) of the mothers who had been incarcerated had a child who had been placed in foster care at some point during the child's life. And almost the same percentage of children whose mothers were incarcerated reported having been placed in foster care at some point.

But surprisingly, researchers found, the mother's incarceration was not the reason the child was placed in foster care.

In fact, in almost three-quarters of the cases, children were placed in foster care prior to the mother's first period of incarceration.

And in more than 40 percent of those cases, the children entered foster care as many as 3 years before their mothers went to jail.

This finding contradicts a widely held assumption that children are placed in foster care as a direct result of their parents' incarceration. The early findings indicate that a child's foster care status is rarely a direct result of a mother's arrest and imprisonment.

This finding is consistent with the results of an earlier, more limited study conducted by the Vera Institute of Justice. There, researchers compared the foster care records of children who first entered the child welfare system in New York State in fiscal year 1997 with their mother's criminal history records. Most mothers in the Vera study were found to have lost custody before they were arrested or went to jail. A mother's incarceration overlapped with the child's stay in foster care in only 11 percent of the cases.

For the children who were in foster care for 30 consecutive days while their mother was incarcerated, 9 in 10 had been placed in foster care prior to their mother's incarceration. The large majority of children—85 percent—were placed in foster care before the mother was arrested on charges that led to her incarceration.

A Big Step in the Right Direction

The interim finding from the Chicago data represents a significant development in the study of the relationship between foster care and parental incarceration. Until now, no study of this magnitude has focused exclusively on the status of the children of incarcerated parents. Instead, researchers have focused primarily on the incarcerated parent; data on children and their custody status was incidental to their inquiries.

In addition, several factors have impeded research on the children: small sample sizes, a reluctance on the part of families and caregivers to provide information that might disrupt formal or informal custody

But surprisingly, researchers found, the mother's incarceration was not the reason the child was placed in foster care.

arrangements, and insufficient funding and resources to locate and track children over time.

Researchers from the Universities of California and Chicago will continue to examine other questions posed by the relationships between child welfare and parental incarceration, such as:

- Do families in which the mother is incarcerated before the child is placed in foster care differ from families in which the child is removed before the parent is incarcerated?
- What is the relationship between the mother's incarceration and the likelihood of a child returning home from foster care or the number of foster care placements?
- What effect does the mother's incarceration have on termination of parental rights?
- What is the relationship between the offense that resulted in the mother's incarceration and the types of maltreatment that prompted child welfare services to intervene?
- What are the similarities and differences between the mother's type of incarceration (jail vs. prison) and the above child welfare issues?

Researchers hope that answers to these queries will illuminate the crossroads of the foster care and criminal justice systems and yield information that will have important implications for practitioners and policy-makers. Data on this nexus will help policy-makers estimate Federal and State costs of parental incarceration and the involvement of dependent children in the foster care system. These data will also inform crime

prevention and family reunification strategies and strengthen collaborative efforts between the criminal justice and child welfare systems.

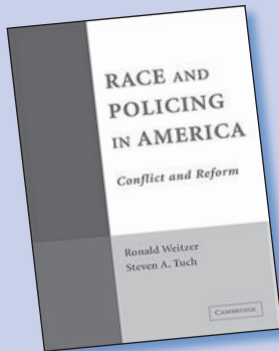
NCJ 215457

Notes

1. A study of 659 foster care alumni who were in the child welfare system between 1988 and 1998 found that parental incarceration is a significant pre-placement risk factor for foster care. Of the foster care alumni in the study, 35 percent had a mother and 36.7 percent had a father with a criminal past.
2. Researchers looked at 52,883 incarcerated or formerly incarcerated mothers and 124,626 of their children to determine that 7,281 incarcerated or formerly incarcerated mothers had 21,533 children who at some point in time were in foster care.

Pecora, P.J., R.C. Kessler, J. Williams, K. O'Brien, A.C. Downs, D. English, J. White, E. Hiripi, C.R. White, T. Wiggins, and K.E. Holmes, *Improving Family Foster Care: Findings From the Northwest Foster Care Alumni Study*, Seattle, WA: Casey Family Programs, March 14, 2005: 2, available at www.casey.org/Resources/Publications/NorthwestAlumniStudy.htm.

Books in Brief



Race and Policing in America: Conflict and Reform

Ronald Weitzer and Steven A. Tuch, New York: Cambridge University Press, 2006.

Race and Policing in America explores how race affects the relationship between police and citizens. Written by Ronald Weitzer and Steven Tuch, professors of sociology at George Washington University in Washington, DC, the book examines the influence of personal and secondhand experience, mass media accounts of police activity, and neighborhood conditions on citizens' views in four major areas, including overall satisfaction with city/community

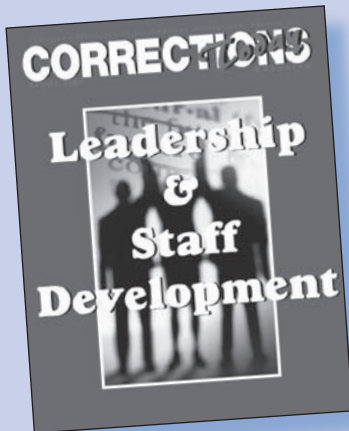
police, police misconduct, police racial discrimination, and evaluation of and support for reforms in policing.

The authors draw from an extensive review of existing studies as well as the data from their own NIJ-funded study that explored the opinions from a national representative survey of whites, African Americans, and Hispanics. The book's findings provide a more complete picture of race and ethnicity and policing than did earlier, less-inclusive studies.

For more information, visit www.cambridge.org/us/catalogue/catalogue.asp?isbn=0521851521.



Corrections Today Features NIJ Articles



Published by the American Correctional Association, *Corrections Today* is a magazine covering criminal justice issues that affect corrections officers and correctional facilities. It regularly features articles written by NIJ staff. To subscribe or for more information, visit www.aca.org/publications/ctmagazine.asp.

"NIJ's Response to the Prison Rape Elimination Act," February 2006

The Prison Rape Elimination Act of 2003 calls for developing national standards to prevent, detect, and reduce sexual violence in prisons; making information on sexual violence more accessible to correctional administrators; and ensuring that prisons take more responsibility for inmate safety. An NIJ-funded study will examine rape in terms of prisons' social and sexual climate. NIJ has also solicited research on prevention, risk assessment, and the medical-psychological impact. This article gives a detailed description of the inmate culture study and outlines four more studies on prevention and risk assessment. It also discusses what is being done to protect the privacy of the inmates participating in research studies.

The article is available at www.ncjrs.gov/pdffiles1/nij/213137.pdf.

"No More 'Cell' Phones," April 2006

The smaller cell phones get, the easier it is to smuggle them inside correctional facilities. Cell phones enable inmates to sustain criminal activities, harass victims, or transmit photographs of supposedly secure information. The Federal Bureau of Prisons, NIJ, and the Naval Surface Warfare Center-Dahlgren have collaborated to evaluate the situation and help develop a technological solution that will eliminate or, at the very least, reduce this growing problem. To date, the Federal Bureau of Prisons has identified four possible technological approaches: locate and confiscate the cell phones, overpower or "jam" the signal with a stronger signal, prevent the phone from detecting a

signal, also called "spoofing," or intercept the signal. This article briefly describes the merits and drawbacks of each solution and what future research and steps will cover.

The article is available at www.ncjrs.gov/pdffiles1/nij/214920.pdf.

"Duress Systems in Corrections Facilities," June 2006

NIJ and the U.S. Department of Defense worked together on the development of duress systems, such as the Staff Alarm and Inmate Tracking program that operates at the Navy's Space and Naval Warfare Systems Center in Charleston, South Carolina. A duress system allows corrections officers to signal for a rapid and coordinated response during life-threatening situations through the push of a portable or mounted button. This article explains the types of duress systems—panic button alarm, identification alarm, and identification/location alarm—and their limitations. It also identifies various factors administrators should consider when choosing a system. The article is based on NIJ's In Short: *Duress Systems in Corrections Facilities* (NCJ 205836).

The article is available at www.ncjrs.gov/pdffiles1/nij/214921.pdf.

"Brief Mental Health Screening for Corrections Intake," August 2006

Correctional administrators need to be able to identify mentally ill detainees, who can become disruptive and/or a threat to themselves and others. Unfortunately, current mental health screens are inconsistent, expensive, time-consuming, and unreliable. Recently, NIJ funded the development of a standardized mental health screen that is brief, economical, and effective, and can be administered with little training at detainee intake. Researchers created two screens: the Correctional Mental Health Screen and the Brief Jail Mental Health Screen. Both are free, take less than 5 minutes, and detect various levels of mental illness. The authors take an in-depth look at how the researchers designed and validated each screening questionnaire and offer suggestions from existing research on how to improve and ensure the tools' accuracy.

The article is available at www.ncjrs.gov/pdffiles1/nij/215592.pdf.



Elder Abuse in the United States

by Catherine C. McNamee with Mary B. Murphy

About the Authors

Catherine C. McNamee is a Social Science Analyst at the National Institute of Justice. Mary B. Murphy is the Managing Editor of the *NIJ Journal*.

To most people, Charles Cullen was an experienced nurse attending to the elderly in hospitals and nursing homes. The perception of Cullen as a devoted caretaker came to an abrupt end in 2004, however, when he admitted that he intentionally administered fatal doses of medication to almost 40 patients in various institutions over a 16-year period. Because most of Cullen's early victims were elderly and seriously ill, and because toxicology and other tests were not done to detect whether there had been wrongdoing, medical examiners did not classify the deaths as homicides.¹ As a result, no criminal investigations were initiated for several years, which resulted in the loss of valuable forensic evidence.²

Cullen's case is an extreme example of what happens when professionals fail to recognize the signs of elder abuse. Despite

the wake-up call high-profile cases such as Cullen's should provide, little is known about how to recognize, prevent, or prosecute incidences of elder abuse.

Early findings from NIJ-funded research projects on the elderly are beginning to build a body of knowledge that will help caretakers, medical personnel, and law enforcement officers to recognize abuse indicators—known as forensic markers—and isolate factors that place elderly individuals at risk.³

Why Are We Behind the Curve?

One reason that so little is known about elder abuse is that a "gold standard test" for abuse or neglect does not exist.⁴ Those working with elders who have been abused or neglected must rely on forensic markers. The problem with this approach is that caregivers, Adult Protective Services agencies, and doctors are often not trained to distinguish between injuries caused by mistreatment and those that are the result of accident, illness, or aging.

Compounding the difficulty in diagnosis is the fact that many elderly individuals suffer from diseases or conditions that produce symptoms mirroring those resulting from abuse. Because these symptoms may mask or mimic indicators of mistreatment, their presence does not send up a red flag for treating physicians or for medical examiners charged with determining manner of death. In addition, doctors caring for elders often fail to recognize how psychological conditions—such as depression and dementia—place an individual at greater risk of falling victim to elder abuse; such psychological conditions themselves are indicators that abuse may be taking place.

Even if a doctor suspects abuse, police officers are rarely trained to investigate elder abuse and thus may not know how to interview an older adult, work with a person who has dementia, collect forensic evidence, or recommend that criminal charges be brought when responding to reports of injuries at care facilities or in homes.

Successful prosecutions are further impeded by the absence of a sufficient number of qualified experts to testify to a reasonable medical certainty that the injuries were the result of abuse or neglect. Medical testimony is crucial in such cases because the victims are often too ill or incapacitated to provide a coherent explanation of how the injury occurred. And the absence of any standardized laws defining elder abuse further constrains the ability of police, medical professionals, and prosecutors to develop a systematic approach to amassing evidence to prosecute offenders. (See “Impediments to Pursuing Elder Justice.”)

Bruising: An Accident or a Consequence of Abuse?

In one NIJ-funded study, researchers are examining bruising, one of the most common indicators of abuse and neglect. Although there is a body of research on the site, pattern, and dating of bruising in children, research on the differentiation between accidental and intentionally inflicted bruising in the geriatric population simply does not exist.

Early findings from NIJ-funded research projects on the elderly are beginning to build a body of knowledge that will help caretakers, medical personnel, and law enforcement officers to recognize abuse indicators—known as forensic markers—and isolate factors that place elderly individuals at risk.

By following a group of elderly individuals for a 16-month period, researcher Laura Mosqueda, M.D., of the University of California, Irvine, and her colleagues, documented the occurrence, progression, and resolution of accidentally inflicted bruising on elderly persons. Researchers found that accidental bruising occurred in predictable locations in older adults: 90 percent of all bruises were on the extremities; no accidental bruises were observed on the ears, neck, genitals, buttocks, or soles of the feet. Contrary to a popularly held belief that one can estimate the age of a bruise by its color, this research found that the color of a bruise at the time of its initial appearance is unpredictable. More bruising was observed on those individuals who were on medication known to have an impact on the blood clotting system and on those older adults with compromised functional ability.⁵

This ongoing research is contributing to a body of data that officials can use for comparison when they suspect that an elderly person with bruising has been abused. The data will also assist doctors and medical examiners in developing a set of forensic markers for use in elder abuse cases.

Study of Elder Deaths Yields Markers

NIJ-funded researchers are also examining data on the deaths of elderly residents in long-term care facilities to identify potential markers of abuse. Led by Erik Lindbloom,

NIJ's portfolio of research will help in the crucial task of identifying forensic markers that can be used to identify cases of abuse and prosecute offenders.

M.D., of the University of Missouri-Columbia, the study examined coroners' reports of elderly nursing home residents in Arkansas over a 1-year period.⁶ Amassing data collected pursuant to an Arkansas law⁷ requiring nursing homes to report all deaths to local coroners, researchers studied the medical examiner's investigative process to gather impressions about markers that might indicate mistreatment and identify barriers to accurate assessments of abuse.

Although a majority of the coroner investigations did not raise suspicions of mistreatment, researchers identified four categories of markers that often led to referral to the Arkansas Attorney General for further investigation:

1. Physical condition/quality of care.

Specific markers include: documented but untreated injuries; undocumented injuries and fractures; multiple, untreated, and/or undocumented pressure sores; medical orders not followed; poor oral care, poor hygiene, and lack of cleanliness of residents; malnourished residents who have no documentation for low weight; bruising on nonambulatory residents; bruising in unusual locations; statements from family concerning adequacy of care; and observations about the level of care for residents with nonattentive family members.

2. Facility characteristics. Specific markers include: unchanged linens; strong odors (urine, feces); trash cans that have not been emptied; food issues (unclean cafeteria); and documented problems in the past.

3. Inconsistencies. Specific markers include: inconsistencies between the medical records, statements made

by staff members, and/or observations of investigators; inconsistencies in statements among groups interviewed; and inconsistencies between the reported time of death and the condition of the body.

4. Staff behaviors. Specific markers include: staff members who follow an investigator too closely; lack of knowledge and/or concern about a resident; unintended or purposeful, verbal or nonverbal evasiveness; and a facility's unwillingness to release medical records.

Attitudes Hinder Investigations

Lindbloom's multidisciplinary research team also conducted focus group interviews with medical examiners, coroners, and geriatricians across the United States to assess the state of forensic investigation of nursing home deaths and to determine ways to identify how abuse and neglect leading to mistreatment deaths might be identified. Results from the focus groups revealed that many professionals believe that deaths due to mistreatment are rare, so forensic investigations would be of little value in improving quality of care. Some medical examiners and coroners felt that decedents' families might resist such investigations, particularly if a family member's complaint had not initiated the investigation. Researchers also identified a propensity for medical examiners and coroners to exhibit ageism—a belief that focusing on nursing home deaths was “a waste of their time and resources...because of the poor health status of most nursing home residents... [who] would die anyway.”⁸ These beliefs are major impediments to improvements in the forensic identification of elder deaths.

Role of the Medical Examiner

Carmel Bitondo Dyer, M.D., of the Baylor College of Medicine, is leading a team of researchers who are examining the deaths of elders who reside in the community to isolate risk factors and identify potential markers of abuse. Funding from NIJ enabled Dyer and her colleagues to conduct research at the Harris County Medical Examiner's

Office (HCMEO) in Texas. They are surveying the medical examiners to determine their practice in identifying forensic markers or risk factors in elder death cases and in reporting elder abuse as a cause of death. They are also viewing autopsies to observe and offer geriatric consultation in elder death cases.

By cross-referencing data from the Texas Department of Family and Protective Services–Adult Protective Services databank with the HCMEO database, Dyer’s team has discovered that since 1999, as many as 900 elder death cases (autopsies, external exams, and inquests) had previously been reported to Adult Protective Services. She and her colleagues at Baylor College of Medicine are currently conducting a pilot study by abstracting 30 cases from this dataset to determine if forensic markers were identified by the medical examiners or if elder abuse was suspected at autopsy. Dyer is also promoting the creation of a Geriatric Toxicology Registry to identify which drugs lead to death in elders.

Vulnerabilities of Victims Impede Detection of Abuse

Researchers are also examining how psychological conditions place elders at risk for abuse—in particular, sexual abuse. Ann Burgess, D.N.Sc., of Boston College, examined 20 nursing home residents who had been sexually assaulted and found that the presence of a preexisting cognitive deficit such as dementia not only impairs the ability of victims to communicate but potentially compounds the trauma of the sexual assault.⁹ The vulnerability of this population places them at unusually high risk for severe traumatic reactions to assault, researchers assessed, noting that 11 of the 20 victims died within 12 months of the assault.¹⁰ Many of the victims remained silent about the attack—the incidents came to light only after suspicious signs or evidence were noted by a staff or family member.¹¹

The study highlighted the importance of training caregivers to identify the signs of assault-related trauma, particularly in those victims who are not likely to report the

IMPEDIMENTS TO PURSUING ELDER JUSTICE

In 2003, the National Research Council’s Panel to Review Risk and Prevalence of Elder Abuse and Neglect estimated that between one and two million Americans aged 65 and older have been harmed by a caretaker in either an institutional or domestic setting.¹² Statistics indicate that the problem only stands to grow as the population ages and life expectancy continues to rise.¹³

But the data show that the science, education, and clinical practice associated with elder abuse and neglect are 30 to 40 years behind those associated with other problems, such as child abuse and domestic violence.¹⁴ This gap in knowledge and practice places an increasingly large population of elders at risk and poses a huge hurdle for prosecutors in bringing elder abuse cases, notes Marie-Therese Connolly, Senior Trial Counsel and Coordinator of the Elder Justice and Nursing Home Initiative at the U.S. Department of Justice. And the potential for effective research studies is further diminished by a lack of reporting. The limited data show that only 16 percent of abuse incidents are reported to Adult Protective Services. The remaining incidents are likely hidden by caregivers in homes and institutions where the elderly reside.¹⁵

incident. Researchers noted a disturbing propensity of nursing home staff to diminish the gravity of assaults on residents. Responses ranging from cynical disbelief to perverse amusement were observed.

The study recommended that guidelines be established for conducting rape trauma examinations on elderly patients. In many cases, researchers noted, doctors were unable to perform the standard forensic rape examination because of the elderly resident’s physical resistance to the procedure or the examining physician’s inability to effectively communicate with the victim. As a result, patients were examined in only half the cases.

Moving Forward

Because victims of elder abuse often suffer from physical and mental disabilities, many cases must rely exclusively on forensic evidence. NIJ’s portfolio of research will help in the crucial task of identifying forensic markers that can be used to identify cases of abuse and prosecute offenders.

NCJ 215458

Notes

1. Quigley, T., "Suspicions of Cullen Arose in '93," *The Express-Times*, May 30, 2004.
2. On March 2, 2006, Cullen was sentenced in Somerset County Superior Court in New Jersey to 11 consecutive life sentences for 22 murders and the attempted murders of 3 others in New Jersey. He will be sentenced at a later date for 7 murders and 3 attempted murders in Pennsylvania. Source: CBS News, available at www.cbsnews.com/elements/2003/12/16/in_depth_us/whoswho588843_0_1_person.shtml. (Retrieved from the World Wide Web on March 9, 2006.)
3. Researchers have identified 14 potential markers of abuse or neglect. They include: abrasions, lacerations, bruising, fractures, restraints, decubiti (bedsores), weight loss, dehydration, medication use, burns, cognitive and mental health problems, hygiene, sexual abuse, and financial fraud and exploitation. Dyer, C.B., M.T. Connolly, and P. McFeeley, "The Clinical and Medical Forensics of Elder Abuse and Neglect," *Elder Mistreatment: Abuse, Neglect, and Exploitation in an Aging America*, ed. R.J. Bonnie and R.B. Wallace, Washington, DC: National Academies Press, 2003: 344–360 (reporting findings of the Panel to Review Risk and Prevalence of Elder Abuse and Neglect).
4. *Ibid.*, 343.
5. Mosqueda, L., K. Burnight, and S. Liao, *Bruising in the Geriatric Population*, final report submitted to the National Institute of Justice, Washington, DC: June 2006 (NCJ 214649), available at www.ncjrs.gov/pdffiles1/nij/grants/214649.pdf.
6. Lindbloom, E., J. Brandt, C. Hawes, C. Phillip, D. Zimmerman, J. Robinson, B. Bowers, and P. McFeeley, *The Role of Forensic Science in Identification of Mistreatment Deaths in Long-Term Care Facilities*, final report submitted to the National Institute of Justice, Washington, DC: April 2005 (NCJ 209334), available at www.ncjrs.gov/pdffiles1/nij/grants/209334.pdf.
7. P.L. 499, Arkansas Statutes [2005].
8. *Ibid.*, 32.
9. Because older victims usually have fewer support systems and reserves—physical, psychological, and economic—the impact of abuse and neglect is magnified, and a single incident of mistreatment is more likely to trigger a downward spiral leading to loss of independence, a serious complicating illness, and even death. Burgess, A., and N. Hanrahan, *Identifying Forensic Markers in Elder Sexual Abuse*, final report submitted to the National Institute of Justice, Washington, DC: 2006 (forthcoming).
10. *Ibid.* Because more than half of the victims were aged 80 to 95 years at the time of the assault, it is impossible to determine if the death was a distal effect of the assault. Although it is not possible to determine whether in each case the assault accelerated death, the fact that more than half of the victims died not from the assault itself but within months of the assault is clearly noteworthy.
11. Reporting by victims accounts for very few instances of elder abuse cases. A study by Jones, J., J.D. Dougherty, D. Schelbie, and W. Cunningham, "Emergency Department Protocol for the Diagnosis and Evaluation of Geriatric Abuse," *Annals of Emergency Medicine* 17 (1998): 1006–15, reported that 72 percent of elder abuse victims did not complain of the abuse at the time of presentation to an emergency center. Dyer et al., "Clinical and Medical Forensics," *Elder Mistreatment*: 363.
12. *Ibid.*, 9, citing Pillemer and Finkelhor (1998); Pavlik et al. (2001).
13. *Ibid.*, 9–10. In 2003, 13 percent of the Nation's population was over the age of 65. The figure is expected to rise to almost 20 percent over the next two decades. Burgess and Hanrahan, *Forensic Markers in Elder Sexual Abuse*.
14. Those who work in the field of elder abuse and neglect believe that the state of medical knowledge and forensic science regarding elder abuse and neglect is approximately equivalent to that of child abuse and neglect three decades ago and domestic violence 10 to 15 years ago. Dyer et al., "Clinical and Medical Forensics," *Elder Mistreatment*: 339.
15. Gallanis, T.P., A. Dayton, and M. Wood, *Elder Law: Readings, Cases, and Materials*, Dayton, OH: Anderson Publishing Co., 2000: 287.

Publications of Interest From NIJ

Identifying Victims Using DNA: A Guide for Families (English and Spanish Version) President's DNA Initiative April 2005

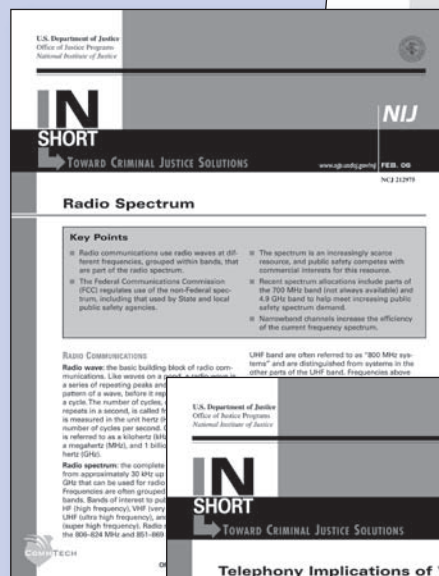
This 8-page booklet, recently translated to Spanish, explains the process of identifying remains using DNA analysis. Written for surviving family and friends, it gives an overview of what DNA analysis can and cannot do, describes the sources of DNA that forensic scientists might use, and explains the differences between nuclear and mitochondrial DNA. This publication is available at www.ojp.usdoj.gov/nij/pubs-sum/209493.htm.

challenges is that the traditional techniques used for locating 911 calls and for telephone intercepts and wiretaps are incompatible with IP-based telephony. The fact sheet discusses plans to address these challenges by public safety organizations, Federal law enforcement, and regulatory agencies. The publication is available at www.ojp.usdoj.gov/nij/pubs-sum/212976.htm.



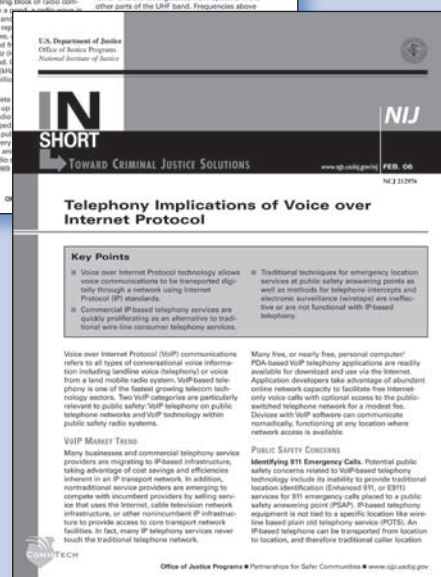
Radio Spectrum February 2006

Radio communications use radio waves at different frequencies, grouped within the bands that make up the radio spectrum. This spectrum is quickly becoming a scarce resource as public safety and commercial interests are competing for its use. This NIJ In Short gives an overview of the problems this competition presents. It also explains the steps being taken to alleviate them, such as short- and long-term plans to allocate additional portions of the spectrum to public safety use. The publication is available at www.ojp.usdoj.gov/nij/pubs-sum/212975.htm.



Telephony Implications of Voice over Internet Protocol February 2006

Voice over Internet Protocol (VoIP) allows voice communications to be transported digitally through a network using Internet Protocol standards. This NIJ In Short illustrates the benefits and challenges VoIP presents to public safety agencies and emergency call takers. One of these





Understanding and Applying Research on Prostitution

by Marilyn C. Moses

About the Author

Marilyn C. Moses is a Social Science Analyst at the National Institute of Justice.

Until recently, female prostitution was a subject that fanned many emotional fires but rarely kindled sound scholarly research. In the past three decades, this situation has begun to change, for three reasons. First, feminist scholars have pushed the door open on studies of this sensitive subject; second, public health concerns regarding the spread of sexually transmitted diseases have intensified in recent years; and third, politicians and policymakers have come to recognize the need for an effective strategy that deals with prostitution and its repercussions.

Recent NIJ-funded research¹ has shed some light on prostitution through studies of data on single and serial homicides of prostitutes.² This research reveals that many women enter prostitution as minors and use the income to support a drug habit or to stave off homelessness. Many suffered abuse as children. They have extremely high rates of

on-the-job victimization³—possibly the highest homicide rate of any group of women studied thus far⁴—and a significant number of prostitute homicides remain unsolved. Researchers have also examined data from a study of prostitutes' clients to find out who they are, why they solicit sex from prostitutes, and what attitudes they hold toward violence against women.

This body of data can be used to develop intervention programs for prostitutes, to determine the effectiveness of demand-side approaches in controlling prostitution (where officers arrest the clients instead of the prostitutes), and to help law enforcement officers conduct more focused homicide investigations.

The Study: Single vs. Serial Homicide Victims

In 2001, the National Center for Analysis of Violent Crimes (NCAVC), a unit within the Federal Bureau of Investigation that offers

investigative support to State and local law enforcement agencies, noted an increase in the number of requests for consultation on serial homicides of prostitutes. In response to this trend, NIJ awarded a grant to researcher Jonathan Dudek to identify empirical distinctions between single and serial prostitute homicide victims. Dudek amassed data on 123 victims, their perpetrators, and the crime scenes using closed investigative case files and NCAVC's database.

Dudek found that the motives for a significant number of single homicides were nonsexual in nature, whereas serial homicides were almost exclusively sexually motivated. Despite this difference, there were few variations in the demographics and lifestyle choices of single and serial homicide victims. Most victims were in their late 20's to early 30's; 60 percent were African American. Almost all victims worked in high-crime areas and had been victimized both "on the job" (that is, while working as a prostitute) and in their personal lives. The large majority—85 percent—were involved in prostitution to support a drug addiction.

Profile of Single and Serial Murderers

Single and serial murderers, like their victims, appeared to resemble each other on the surface. They both shared violent criminal backgrounds, substance use histories, and lifestyle choices. The sample of perpetrators consisted of an equal proportion of African Americans and Caucasians who ranged in age from early- to mid-30's.

However, serial murderers differed from single murderers in three areas—sexual aggression, deviant sexual interests, and active sexual fantasies. Serial killers engaged more frequently in planning activities (such as bringing a victim to a preselected area, removing clothing from the victim's body, and so forth), ritualistic behaviors, body mutilation, and removal of body parts.

Dudek's findings were significant because they allowed NCAVC to supplement its existing body of knowledge with empirically based data. These data

Dudek found that the motives for a significant number of single homicides were nonsexual in nature, whereas serial homicides were almost exclusively sexually motivated.

were used to formulate recommendations to help State and local law enforcement officers identify suspects and more efficiently and thoroughly investigate homicides.

The Demand Side—"Johns"

NIJ also sponsored a more extensive look at prostitutes' clients—commonly known as "johns." In 1997, an NIJ-funded study conducted by Martin A. Monto of the University of Portland explored the types of sex-related behavior characteristics of men who solicited prostitutes. The study examined the effects of the First Offender Prostitution Program (FOPP) in San Francisco, California, and similar programs in other cities. These programs offered johns an opportunity to pay a fine and attend a daylong seminar. Participants were advised that no further legal action would be taken against them if they successfully avoided rearrest for a year. If there was a subsequent offense, however, the individual was prosecuted for the new offense and the original charge was reinstated.

Monto surveyed 1,291 men arrested for soliciting street prostitutes before they participated in FOPP and in similar johns programs in Las Vegas, Nevada; Portland, Oregon; and Santa Clara, California. He compared the data on why these men visit prostitutes, their attitudes regarding violence against women, and the consequences of conceiving of sexuality as a commodity.

Monto found that 72 percent of the men surveyed had attended some college. They ranged in age from 18 to 84 years, with a median age of 37, and were less likely to be married. Although their motives for seeking sex with a prostitute differed, there were

NIJ's research portfolio on prostitution will help build a body of knowledge that can be used by a wide range of professionals—public health officials, social workers, and law enforcement officers.

similarities among certain groups. Married clients and college graduates were more likely to want a different kind of sex than they had with their regular partners. Steady or unmarried clients and non-college graduates reportedly felt shy and awkward when trying to meet women but did not feel intimidated by prostitutes.

Monto also explored the clients' attitudes toward "rape myths"—that is, attitudes that have been used to support sexual violence against women.⁵ Less than one-half of 1 percent of those surveyed indicated acceptance of all eight rape myths. On the other hand, 20 percent indicated acceptance of four or more items. Researchers believe that this latter group may be responsible for perpetrating violent acts against women for hire.

Next, Monto measured the degree to which clients regarded sexuality as a commercial commodity.⁶ Monto found that the greater a client's belief that women and sex were commercial products, the more frequently he would visit prostitutes. This mindset was also a strong predictor of the acceptance of rape myths, less frequent condom use with prostitutes, and a disinclination to view prostitution as a demeaning profession for women.

Researchers also conducted a limited recidivism study of those clients who participated in the San Francisco and Portland programs. Although both programs had a recidivism

rate of about 2 percent, researchers acknowledge that conclusions about the programs' efficacy in reducing recidivism were hampered by a lack of available baseline data for comparative purposes. The recidivism rate was not computed for men who were arrested but did not attend the program.

What the Future Holds

Since 2000, NIJ has funded two other studies that examine prostitute clients and the San Francisco FOPP more closely. The goals of the first study⁷ are two-fold: to compare the recidivism rates for FOPP program participants and nonparticipants, and to conduct a cost-benefit analysis of the diversion program. It is anticipated that the savings in prosecution costs, probation administration and monitoring time, and jail time will be substantial even if the recidivism effect is low. The goal of the second study is to ascertain the deterrent effect of arrest on street prostitute patrons.⁸ If the study's preliminary findings hold true—that arresting the clients of women prostitutes has a deterrent effect—this may provide evidence for a shift in law enforcement strategy.

NIJ's research portfolio on prostitution will help build a body of knowledge that can be used by a wide range of professionals—public health officials, social workers, and law enforcement officers. Understanding the forces that drive a woman into prostitution and the drug dependencies that keep her there will go a long way toward developing intervention strategies for prostitutes and will help to stave off the spread of sexually transmitted diseases. Additional data on the types of clients who solicit prostitutes and their attitudes toward them will also help to formulate more effective deterrence programs for johns and may help police identify potential suspects in prostitute homicide cases.

NCJ 215459

For More Information

- Dudek, J., *When Silenced Voices Speak: An Exploratory Study of Homicide*, final report submitted to the National Institute of Justice, Washington, DC: 2001 (NCJ 198117), available at www.ncjrs.gov/pdffiles1/nij/grants/198117.pdf.
- Monto, M., *Focusing on the Clients of Street Prostitutes: A Creative Approach to Reducing Violence Against Women*, final report submitted to the National Institute of Justice, Washington, DC: 1999 (NCJ 182860), available at www.ncjrs.gov/pdffiles1/nij/grants/182860.pdf.

Notes

1. NIJ's research portfolio centers on women involved in street prostitution, not on "call girls" or other off-street forms of prostitution, such as that found in massage parlors, exotic dance clubs, hotel bars, or escort services.
2. A single homicide involves one victim; a serial homicide involves two or more victims who are murdered by the same perpetrator.
3. Kurtz, S., H. Surratt, J. Inciardi, and M. Kiley, "Sex Work and 'Date' Violence," *Violence Against Women* 10 (4) (2004): 357–85; Davis, N., *Prostitution: An International Handbook on Trends, Problems, and Policies*, London: Greenwood Press, 1993; Hogard, C., and L. Finstad, *Back Streets: Prostitution, Money, and Love*, University Park: Pennsylvania State University Press, 1992; Silbert, M.H., "Occupational Hazards of Street Prostitutes," *Criminal Justice and Behavior* 8 (1981): 395–99.
4. Potterat, J.J., D.D. Brewer, S.Q. Muth, R.B. Rothenburg, D.E. Woodhouse, J.B. Muth, H.K. Stites, and S. Brody, "Mortality in a Long-Term Open Cohort of Prostitute Women," *American Journal of Epidemiology* 159 (8) (April 2004): 778–85.
5. The eight rape myths Monto identified are: (1) A woman who goes to the home or apartment of a man on their first date implies that she is willing to have sex; (2) When women do not wear bras or wear short skirts and tight tops, they are asking for trouble; (3) In the majority of rapes, the victim is promiscuous or has a bad reputation; (4) If a girl engages in necking or petting and she lets things get out of hand, it is her own fault if her partner forces sex on her; (5) Women who get raped while hitchhiking get what they deserve; (6) A woman who is stuck-up and thinks she is too good to talk to guys on the street deserves to be taught a lesson; (7) Women who report a rape are lying because they are angry and want to get back at the man they accuse; and (8) Women who report rape after they discover they are pregnant invent a story to protect their reputation. Monto, M., *Focusing on Clients of Street Prostitutes: A Creative Approach to Reducing Violence Against Women*, final report submitted to the National Institute of Justice, Washington, DC: 1999 (NCJ 182860): 63, available at www.ncjrs.gov/pdffiles1/nij/grants/182860.pdf.
6. Prostitution is the offering of something of value in exchange for sexual activity. By definition, prostitution is a form of commodification, which in this context is the belief that women generally and/or sexual activity specifically are commercial products.
7. NIJ award no. 2005–IJ–CX–0037. *Evaluation of Office of Juvenile Justice and Delinquency Prevention FY 2003 Discretionary Funds Projects: The First Offender Prostitution Program*. Findings are expected in late 2007.
8. NIJ award no. 2003–IJ–CX–1036. *Clients of Prostitute Women: Deterrence, Prevalence, Characteristics, and Violence*. Findings are expected in late 2006.



NIJ and Harvard University Webcast Investigates Sex Trafficking in the U.S.

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On June 26, 2006, the NIJ/Harvard University Webcast series delved into the brutal, black-market world of human sex trafficking. Sexual exploitation of trafficked persons is increasingly recognized as a significant but unseen problem within the United States. Some estimates place the number of people trafficked into the country each year in the tens of thousands. And this scourge isn't just happening in the United States. Sex trafficking is a global, multifaceted threat. Any program or solution will require a comprehensive approach, including prevention, identifying and prosecuting perpetrators, and protecting victims.

Moderated by Swanee Hunt, director of the Women and Public Policy Program at Harvard's Kennedy School of Government, **"Sex Trafficking in the United States"** brought together the expert perspectives of Ambassador John Miller of the U.S. State Department, Norma Hotaling, founder of the SAGE (Standing Against Global Exploitation) Project, and Massachusetts State Senator Mark Montigny.

Produced by Harvard University's Ash Institute for Democratic Governance and Innovation, the NIJ/Harvard Webcast series focuses on innovations in public safety. Archived discussions include:

- **"Prisoner Reentry: Facing the Challenges of Returning Home,"**
November 9, 2005.
- **"DNA in 'Minor' Crimes Yields Major Benefits in Public Safety,"**
May 31, 2005.

Multimedia presentations of all sessions and announcements of future programs can be found on the Ash Institute's Government Innovators Network Web site at www.innovations.harvard.edu.

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