



**TEXAS CRIMINAL DEFENSE LAWYERS ASSOCIATION**

**Criminal Defense Lawyers Project**

**“Innocence Work” in the Real World for Real Lawyers**

August 11-12, 2011  
Doubletree North Austin  
Austin, Texas

**Topic:  
Eyewitness Identification**

**Speaker:**

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**INNOCENCE WORK  
IN THE REAL WORLD FOR REAL LAWYERS  
AUSTIN, TEXAS  
AUGUST 11-12, 2011**

**EYEWITNESS IDENTIFICATION**

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**A**

**Texas Eyewitness Identification Legislation**



By: Gallego, Hartnett, Giddings, Carter

H.B. No. 215

A BILL TO BE ENTITLED  
AN ACT

relating to photograph and live lineup identification procedures in criminal cases.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Chapter 38, Code of Criminal Procedure, is amended by adding Article 38.20 to read as follows:

Art. 38.20. PHOTOGRAPH AND LIVE LINEUP IDENTIFICATION PROCEDURES

Sec. 1. In this article, "institute" means the Bill Blackwood Law Enforcement Management Institute of Texas located at Sam Houston State University.

Sec. 2. This article applies only to a law enforcement agency of this state or of a county, municipality, or other political subdivision of this state that employs peace officers who conduct photograph or live lineup identification procedures in the routine performance of the officers' official duties.

Sec. 3. (a) Each law enforcement agency shall adopt, implement, and as necessary amend a detailed written policy regarding the administration of photograph and live lineup identification procedures in accordance with this article. A law enforcement agency may adopt:

- (1) the model policy adopted under Subsection (b); or
- (2) the agency's own policy that, at a minimum, conforms to the requirements of Subsection (c).

(b) The institute, in consultation with large, medium, and small law enforcement agencies and with law enforcement associations, scientific experts in eyewitness memory research, and appropriate organizations engaged in the development of law enforcement policy, shall develop, adopt, and disseminate to all law enforcement agencies in this state a model policy and associated training materials regarding the administration of photograph and live lineup identification procedures. The institute shall provide for a period of public comment before adopting the policy and materials.

(c) The model policy or any other policy adopted by a law enforcement agency under Subsection (a) must:

- (1) be based on:
  - (A) credible field, academic, or laboratory research on eyewitness memory;
  - (B) relevant policies, guidelines, and best practices designed to reduce erroneous eyewitness identifications and to enhance the reliability and objectivity of eyewitness identifications; and
  - (C) other relevant information as appropriate;

and

- (2) address the following topics:
  - (A) the selection of photograph and live lineup filler photographs or participants;
  - (B) instructions given to a witness before conducting a photograph or live lineup identification procedure;
  - (C) the documentation and preservation of results of a photograph or live lineup identification procedure, including the documentation of witness statements, regardless of the outcome of the procedure;
  - (D) procedures for administering a photograph or live lineup identification procedure to an illiterate person or a

person with limited English language proficiency:

(E) for a live lineup identification procedure, if practicable, procedures for assigning an administrator who is unaware of which member of the live lineup is the suspect in the case or alternative procedures designed to prevent opportunities to influence the witness;

(F) for a photograph identification procedure, procedures for assigning an administrator who is capable of administering a photograph array in a blind manner or in a manner consistent with other proven or supported best practices designed to prevent opportunities to influence the witness; and

(G) any other procedures or best practices supported by credible research or commonly accepted as a means to reduce erroneous eyewitness identifications and to enhance the objectivity and reliability of eyewitness identifications.

Sec. 4. (a) Not later than December 31 of each odd-numbered year, the institute shall review the model policy and training materials adopted under this article and shall modify the policy and materials as appropriate.

(b) Not later than September 1 of each even-numbered year, each law enforcement agency shall review its policy adopted under this article and shall modify that policy as appropriate.

Sec. 5. (a) Any evidence or expert testimony presented by the state or the defendant on the subject of eyewitness identification is admissible only subject to compliance with the Texas Rules of Evidence. Evidence of compliance with the model policy or any other policy adopted under this article or with the minimum requirements of this article is not a condition precedent to the admissibility of an out-of-court eyewitness identification.

(b) Notwithstanding Article 38.23 as that article relates to a violation of a state statute, a failure to conduct a photograph or live lineup identification procedure in substantial compliance with the model policy or any other policy adopted under this article or with the minimum requirements of this article does not bar the admission of eyewitness identification testimony in the courts of this state.

SECTION 2. (a) Not later than December 31, 2011, the Bill Blackwood Law Enforcement Management Institute of Texas shall develop, adopt, and disseminate the model policy and associated training materials required under Article 38.20, Code of Criminal Procedure, as added by this Act.

(b) Not later than September 1, 2012, each law enforcement agency to which Article 38.20, Code of Criminal Procedure, as added by this Act, applies shall adopt a policy as required by that article.

(c) The change in law made by Section 5, Article 38.20, Code of Criminal Procedure, as added by this Act, applies only to a photograph or live lineup identification procedure conducted on or after September 1, 2012, regardless of whether the offense to which the procedure is related occurred before, on, or after September 1, 2012.

SECTION 3. This Act takes effect September 1, 2011.

**BILL ANALYSIS**

Senate Research Center  
82R469 SJM-D

S.B. 121  
By: Ellis, et al.  
Criminal Justice  
2/24/2011  
As Filed

**AUTHOR'S / SPONSOR'S STATEMENT OF INTENT**

Mistaken eyewitness identification is the leading cause of wrongful convictions in Texas and the United States (U.S.).

Texas has had more DNA exonerations than any other state. According to the national Innocence Project, approximately 75 percent of the 266 DNA exonerations in the U.S. have been due to eyewitness misidentification. In Texas, 85 percent of the 44 DNA wrongful convictions have been largely or exclusively due to incorrect eyewitness identifications.

Despite the fact that certain "best practices" have been shown to improve the accuracy and reliability of eyewitness evidence, the Justice Project found in November 2008 that only 12 percent of police departments in Texas have written policies or guidelines for conducting lineups. There is no law requiring law enforcement agencies to have a written policy regarding eyewitness identification or that such policies should be based on best practices.

S.B. 121 requires all law enforcement agencies in the state to adopt written eyewitness identification policies based on best practices proven effective by scientific research on eyewitness memory and use in law enforcement agencies in other parts of the country. This bill requires the Bill Blackwood Law Enforcement Management Institute of Texas to develop and disseminate a model policy and associated training materials to local law enforcement agencies regarding eyewitness identification procedures.

Eyewitness identification procedures would have to address the following topics: the selection of photograph and live lineup filler photographs or participants; instructions that will be given to a witness before conducting a photograph or live lineup identification procedure; documentation and preservation of lineup procedures; procedures for administering lineups to illiterate persons or persons with limited English proficiency; procedures for assigning a lineup administrator who is unaware of the suspect in a lineup or photo array; and any other procedures or best practices supported by credible research or commonly accepted as a means to reduce erroneous identifications and enhance the objectivity and reliability of eyewitness identifications.

As proposed, S.B. 121 amends current law relating to photograph and live lineup identification procedures in criminal cases.

**RULEMAKING AUTHORITY**

This bill does not expressly grant any additional rulemaking authority to a state officer, institution, or agency.

**SECTION BY SECTION ANALYSIS**

SECTION 1. Amends Chapter 38, Code of Criminal Procedure, by adding Article 38.20, as follows:

**Art. 38.20. PHOTOGRAPH AND LIVE LINEUP IDENTIFICATION PROCEDURES**

Sec. 1. Defines "institute" in this article to mean the Bill Blackwood Law Enforcement Management Institute of Texas (institute) located at Sam Houston State University.

Sec. 2. Provides that this article applies only to a law enforcement agency of this state or of a county, municipality, or other political subdivision of this state that employs peace officers who conduct photograph or live lineup identification procedures in the routine performance of the officers' official duties.

Sec. 3. (a) Requires each law enforcement agency to adopt, implement, and as necessary amend a detailed written policy regarding the administration of photograph and live lineup identification procedures in accordance with this article. Authorizes a law enforcement agency to adopt:

(1) the model policy adopted under Subsection (b); or

(2) the agency's own policy that conforms to the requirements of the model policy adopted under Subsection (b).

(b) Requires the institute, with the advice and assistance of law enforcement agencies and scientific experts in eyewitness memory research, to develop, adopt, and disseminate to all law enforcement agencies a model policy and associated training materials regarding the administration of photograph and live lineup identification procedures.

(c) Requires that the model policy:

(1) be based on:

(A) scientific research on eyewitness memory;

(B) relevant policies and guidelines developed by the federal government, other states, and other law enforcement organizations; and

(C) other relevant information as appropriate; and

(2) address the following topics:

(A) the selection of photograph and live lineup filler photographs or participants;

(B) instructions given to a witness before conducting a photograph or live lineup identification procedure;

(C) the documentation and preservation of results of a photograph or live lineup identification procedure, including the documentation of witness statements, regardless of the outcome of the procedure;

(D) procedures for administering a photograph or live lineup identification procedure to an illiterate person or a person with limited English language proficiency;

(E) procedures for assigning an administrator who, as applicable:

(i) is unaware of which member of the live lineup is the suspect in the case or, if that is not practicable, alternative procedures designed to prevent opportunities to influence the witness; or

(ii) is capable of administering a photograph array in a blind manner or, if that is not practicable, alternative procedures designed to prevent opportunities to influence the witness; and

(F) any other procedures or best practices supported by credible research or commonly accepted as a means to reduce erroneous identifications and enhance the objectivity and reliability of eyewitness

identifications.

Sec. 4. Requires the institute to complete an annual review of the model policy and training materials adopted under this article and to modify the policy and materials as necessary.

Sec. 5. (a) Provides that evidence of compliance or noncompliance with the model policy adopted under this article is relevant and admissible in a criminal case but is not a condition precedent to the admissibility of an out-of-court eyewitness identification.

(b) Provides that, notwithstanding Article 38.23 (Evidence Not To Be Used), a failure to conduct a photograph or live lineup identification procedure in substantial compliance with the model policy adopted under this article does not bar the admission of eyewitness identification testimony in the courts of this state.

SECTION 2. (a) Requires the institute, not later than June 1, 2012, to develop, adopt, and disseminate the model policy and associated training materials required under Article 38.20, Code of Criminal Procedure, as added by this Act.

(b) Requires each law enforcement agency to which Article 38.20, Code of Criminal Procedure, as added by this Act, applies to adopt a policy as required by that article not later than September 1, 2012.

(c) Makes the change in law made by Section 5, Article 38.20, Code of Criminal Procedure, as added by this Act, prospective to lineup identification procedures conducted on or after September 1, 2012, regardless of whether the offense to which the procedure is related occurred before, on, or after September 1, 2012.

SECTION 3. Effective date: September 1, 2011.

## **BILL ANALYSIS**

Senate Research Center

C.S.S.B. 121  
By: Ellis et al.  
Criminal Justice  
3/2/2011  
Committee Report (Substituted)

### **AUTHOR'S / SPONSOR'S STATEMENT OF INTENT**

Mistaken eyewitness identification is the leading cause of wrongful convictions in Texas and the United States (U.S.).

Texas has had more DNA exonerations than any other state. According to the national Innocence Project, approximately 75 percent of the 266 DNA exonerations in the U.S. have been due to eyewitness misidentification. In Texas, 85 percent of the 44 DNA wrongful convictions have been largely or exclusively due to incorrect eyewitness identifications.

Despite the fact that certain "best practices" have been shown to improve the accuracy and reliability of eyewitness evidence, the Justice Project found in November 2008 that only 12 percent of police departments in Texas have written policies or guidelines for conducting lineups. There is no law requiring law enforcement agencies to have a written policy regarding eyewitness identification or that such policies should be based on best practices.

C.S.S.B. 121 requires all law enforcement agencies in the state to adopt written eyewitness identification policies based on best practices proven effective by scientific research on eyewitness memory and use in law enforcement agencies in other parts of the country. This bill requires the Bill Blackwood Law Enforcement Management Institute of Texas to develop and disseminate a model policy and associated training materials to local law enforcement agencies regarding eyewitness identification procedures.

Eyewitness identification procedures would have to address the following topics: the selection of photograph and live lineup filler photographs or participants; instructions that will be given to a witness before conducting a photograph or live lineup identification procedure; documentation and preservation of lineup procedures; procedures for administering lineups to illiterate persons or persons with limited English proficiency; procedures for assigning a lineup administrator who is unaware of the suspect in a lineup or photo array; and any other procedures or best practices supported by credible research or commonly accepted as a means to reduce erroneous identifications and enhance the objectivity and reliability of eyewitness identifications.

C.S.S.B. 121 amends current law relating to photograph and live lineup identification procedures in criminal cases.

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(1) the model policy adopted under Subsection (b); or

(2) the agency's own policy that, at a minimum, conforms to the requirements of Subsection (c).

(b) Requires the institute, in consultation with large, medium, and small law enforcement agencies and with law enforcement associations, scientific experts in eyewitness memory research, and appropriate organizations engaged in the development of law enforcement policy, to develop, adopt, and disseminate to all law enforcement agencies in this state a model policy and associated training materials regarding the administration of photograph and live lineup identification procedures. Requires the institute to provide for a period of public comment before adopting policy and materials.



(c) Requires that the model policy or any other policy adopted by a law enforcement agency under Subsection (a):

(1) be based on:

(A) credible field, academic, or laboratory research on eyewitness memory;

(B) relevant policies, guidelines, and best practices designed to reduce erroneous eyewitness identifications and to enhance the reliability and objectivity of eyewitness identifications; and

(C) other relevant information as appropriate; and

(2) address the following topics:

(A) the selection of photograph and live lineup filler photographs or participants;

(B) instructions given to a witness before conducting a photograph or live lineup identification procedure;

(C) the documentation and preservation of results of a photograph or live lineup identification procedure, including the documentation of witness statements, regardless of the outcome of the procedure;

(D) procedures for administering a photograph or live lineup identification procedure to an illiterate person or a person with limited English language proficiency;

(E) for a live lineup identification procedure, if practicable, proceed for assigning an administrator who is unaware of which member of the live lineup is the suspect in the case or alternative procedures designed to prevent opportunities to influence the witness;

(F) for a photograph identification procedure, procedures for assigning an administrator who is capable of administering a photograph array in a blind manner or in a manner consistent with other proven or supported best practices designed to prevent opportunities to influence the witness; and

(G) any other procedures or best practices supported by credible research or commonly accepted as a means to reduce erroneous eyewitness identifications and to enhance the objectivity and reliability of eyewitness identifications.

Sec. 4. (a) Requires the institute, not later than December 31 of each odd-numbered year, review the model policy and training materials adopted under this article and to modify the policy and materials as appropriate.

(b) Requires each law enforcement agency, not later than September 1 of each even-numbered year, to review its policy adopted under this article and to modify that policy as appropriate.

Sec. 5. (a) Provides that any evidence or expert testimony presented by the state or the defendant on the subject of eyewitness identification is admissible only subject to compliance with the Texas Rules of Evidence. Provides that evidence of compliance with the model policy or any other policy adopted under this article or with the minimum requirements of this article is not a condition precedent to the admissibility of an out-of-court eyewitness identification.

(b) Provides that, notwithstanding Article 38.23 (Evidence Not To Be Used) as that article relates to a violation of a state statute, a failure to conduct a photograph or live lineup identification procedure in substantial compliance with the model policy or other policy adopted under this article or with the minimum requirements of this

article does not bar the admission of eyewitness identification testimony in the courts of this state.

SECTION 2. (a) Requires the institute, not later than December 31, 2011, to develop, adopt, and disseminate the model policy and associated training materials required under Article 38.20, Code of Criminal Procedure, as added by this Act.

(b) Requires each law enforcement agency to which Article 38.20, Code of Criminal Procedure, as added by this Act, applies to adopt a policy as required by that article not later than September 1, 2012.

(c) Makes the change in law made by Section 5, Article 38.20, Code of Criminal Procedure, as added by this Act, prospective to lineup identification procedures conducted on or after September 1, 2012, regardless of whether the offense to which the procedure is related occurred before, on, or after September 1, 2012.

SECTION 3. Effective date: September 1, 2011.

**B**

**Timothy Cole  
Advisory Panel on Wrongful Conviction**



**Timothy Cole  
Advisory Panel on  
Wrongful Convictions**

Report to the Texas Task Force  
on Indigent Defense

# Timothy Cole Advisory Panel on Wrongful Convictions

## Membership

The Honorable John Whitmire  
Chair, Criminal Justice Committee

The Honorable Jeff Wentworth  
Chair, Jurisprudence Committee

The Honorable Jim McReynolds  
Chair, Corrections Committee

The Honorable Pete Gallego  
Chair, Criminal Jurisprudence

Ms. Kathryn M. Kase  
Texas Criminal Defense Lawyers Association

The Honorable Barry Macha  
President, Texas District and County  
Attorneys Association

The Honorable Barbara Hervey  
Judge, Court of Criminal Appeals

Prof. Sandra Guerra Thompson  
University of Houston Law Center

Ms. Mary Anne Wiley  
Deputy General Counsel  
Office of the Governor

Mr. James D. Bethke  
Director, Task Force on Indigent Defense

Chief James McLaughlin  
Executive Director and General Counsel  
Texas Police Chiefs Association

## **Timothy Cole Advisory Panel on Wrongful Convictions**

### **Summary Panel Recommendation**

The Panel recommends that the State of Texas should:

#### **Eyewitness Identification Procedures:**

1. Require Bill Blackwood Law Enforcement Management Institute of Texas (LEMIT) to work with scientific experts in eyewitness memory research and law enforcement agencies to develop, adopt, disseminate to all law enforcement agencies, and annually review a model policy and training materials regarding the administration of photo and live lineups. That model policy should comport with science in the areas of cautionary instructions, filler selection, double-blind administration, documentation of identification procedures, and other procedures or best practices supported by credible research.
2. Require all law enforcement agencies to adopt eyewitness identification procedures that comply with the model policy promulgated by LEMIT.
3. Integrate training on eyewitness identification procedures into the required curricula of the LEMIT and the Texas Commission on Law Enforcement Standards and Education (TCLEOSE).
4. Permit evidence of compliance or noncompliance with the model policy to be admissible in court.
5. Allow law enforcement agencies discretion on the adoption of sequential procedures.

#### **Recording Custodial Interrogations:**

6. Adopt a mandatory electronic recording policy, from delivery of *Miranda* warnings to the end, for custodial interrogations in certain felony crimes. The policy should include a list of exceptions to recording and the judicial discretion to issue a jury instruction in the case of an unexcused failure to record.

#### **Discovery Procedures:**

7. Adopt a discovery policy that is mandatory, automatic, and reciprocal, and requires either electronic access to or photocopies of materials subject to discovery.

#### **Post-Conviction Proceedings:**

8. Amend the Chapter 64 motion for post-conviction DNA testing to allow testing of any previously untested biological evidence, regardless of the reason the evidence was not previously tested, or evidence previously tested using older, less accurate methods.
9. Amend the Chapter 11 writs of habeas corpus to include a writ based on changing scientific evidence.

#### **Innocence Commission:**

10. Formalize the current work of the innocence projects that receive state funding to provide further detail in the projects' annual reports and distribute those reports to the Governor, Lieutenant Governor, Speaker of the House, and Chairs of the Senate Jurisprudence, House Corrections, House Criminal Jurisprudence and Senate Criminal Justice Committees. Report input should be solicited from other innocence projects, interested bar associations, judicial entities, law enforcement agencies, prosecutor associations, and advocacy organizations.
11. Provide an FTE for the Task Force using the current appropriation or other grant funding to administer these responsibilities, and contracts between the innocence projects and the Task Force on Indigent Defense should be amended to reflect the new administrator and additional responsibilities.

## The Justice Project: The Texas DNA Exonerated<sup>8</sup>

Last Name	First Name	Year Convicted	Year Exonerated	County	Crime	Mistaken Eyewitness Identification	Faulty Forensic Testimony	Unreliable or Limited Forensic Methods	Jailhouse Informant & Accomplice Testimony	False Confession or Plea	Suppression of Exculpatory Evidence or Other Misconduct	Approximate Years in Prison
Alejandro	Giberl	1990	1994	Uvalde	rape	✓	✓					4
Blair	Michael Nawee	1994	2003	Collin	rape, murder	✓	✓	✓				14
Butler	A B	1983	2000	Smith	rape, kidnapping	✓						17
Byrd	Kevin	1985	1997	Harris	rape	✓		✓				12
Chatman	Charles	1981	2007	Dallas	rape	✓		✓				27
Cole*	Timothy Brian	1986	2008	Lubbock	rape	✓		✓			✓	13*
Criner	Roy	1990	2000	Montgomery	rape, murder				✓			10
Danziger	Richard	1990	2001	Travis	rape, murder			✓	✓	✓		12
Fountain	Wiley	1986	2003	Dallas	rape	✓						16
Fuller	Larry	1981	2006	Dallas	rape	✓	✓					20
Giles	James Curtis	1983	2007	Dallas	rape	✓					✓	10
Good	Donald	1964	2004	Dallas	rape	✓		✓			✓	10
Gossett	Andrew	2000	2007	Dallas	rape	✓						7
Henton	Eugene	1984	2006	Dallas	rape	✓				✓		2
Karage	Entre Nax	1997	2004	Dallas	murder							7
Lavernia	Carlos	1985	2000	Travis	rape	✓						16
Lindsey	Johnnie Earl	1983	2008	Dallas	rape	✓						28
McGowan	Thomas	1985	2006	Dallas	rape, burglary	✓						23
Miller	Billy Wayne	1984	2006	Dallas	rape	✓						22
Moon	Brandon	1988	2005	El Paso	rape	✓	✓				✓	17
Mumphrey	Arthur	1986	2006	Montgomery	rape				✓			18
Ochoa	Christopher	1989	2001	Travis	murder					✓		12
Phillips	Steven Charles	1983	2007	Dallas	rape, burglary	✓		✓		✓	✓	26
Pope	David Shawn	1986	2001	Dallas	rape	✓		✓				15
Rachell	Picardo	2003	2008	Harris	child sex assault	✓					✓	6
Robinson	Anthony	1987	2000	Harris	rape	✓						10
Rodriguez	George	1987	2004	Harris	rape, kidnapping	✓	✓	✓	✓			17
Salazar	Ben	1992	1997	Travis	rape	✓		✓				5
Smith	Billy James	1987	2006	Dallas	rape	✓						19
Sutton	Josiah	1999	2004	Harris	rape	✓	✓					4
Taylor	Ronald	1996	2007	Harris	rape	✓	✓					14
Thomas	Victor Larue	1986	2002	Ellis	rape	✓						15
Turner	Keith E.	1983	2005	Dallas	rape	✓						4
Waller	James	1983	2007	Dallas	rape	✓						11
Waller	Patrick	1992	2008	Dallas	robbery, kidnapping	✓				✓		16
Wallis	Gregory	1989	2007	Dallas	rape	✓						18
Washington	Calvin	1987	2001	McLennan	rape, murder			✓	✓			13
Webb	Mark	1987	2001	Tarrant	rape	✓						13
Woodard	James Lee	1981	2008	Dallas	murder, rape	✓					✓	27
<b>TOTALS</b>						33	7	11	5	5	7	548

\*Died in prison in 1999

<sup>8</sup> THE JUSTICE PROJECT. CONVICTING THE INNOCENT: TEXAS JUSTICE DERAILED: STORIES OF INJUSTICE AND THE REFORMS THAT CAN PREVENT THEM (2009), *reprinted with permission from The Justice Project.*



### New and Pending DNA Exonerations<sup>9</sup>

Last Name	First Name	Year Convicted	Year Exonerated	County	Crime	Mistaken Eyewitness Identification	Faulty Forensic Testimony	Unreliable or Limited Forensic Methods	Jailhouse Informant & Accomplice Testimony	False Confession or Plea	Suppression of Exculpatory Evidence or Other Misconduct	Approximate Years in Prison
Evans	Jerry Lee	1986	2009	Dallas	rape	✓						23
Sonnier**	Ernest	1986		Harris	kidnapping	✓	✓					23
Porter**	Allen Wayne	1990		Harris	rape	✓						19
Green**	Michael A.	1983		Harris	rape	✓						27

*\*\*Released on new DNA evidence, awaiting final exoneration from the State of Texas*

<sup>9</sup> THE JUSTICE PROJECT, CONVICTING THE INNOCENT: TEXAS JUSTICE DERAILED: TEXAS DNA EXONERATION UPDATE (2010).

## Chapter 1: Eyewitness Identification Procedures

### Panel Recommendations

In a survey of 1,038 Texas law enforcement agencies, 750 responded and only 88 (12%) had any written policies to guide investigators as they prepare and administer eyewitness identification procedures.<sup>1</sup> Based on the seriousness of eyewitness misidentification, the Panel makes the following recommendations. These proposals are in line with the language in the House committee substitute to SB 117 during the 81<sup>st</sup> Legislature (*see Appendix A of the Research Details*). These consensus procedures were supported by a broad range of criminal justice stakeholders during the session and continue to be supported by this diverse Panel:

1. **The State of Texas should require Bill Blackwood Law Enforcement Management Institute of Texas (LEMIT) to work with scientific experts in eyewitness memory research and law enforcement agencies to develop, adopt, disseminate to all law enforcement agencies, and annually review a model policy and training materials regarding the administration of photo and live lineups. That model policy should comport with science in the areas of cautionary instructions, filler selection, double-blind administration, documentation of identification procedures, and other procedures or best practices supported by credible research.**

By working with experts in the field of eyewitness memory and identification procedures, LEMIT can develop a standardized procedure that will guide the photo and live lineups conducted throughout the state. Annual review of this model policy will ensure that eyewitness identification procedures in Texas are guided by the most current science and best practices available.

2. **The State of Texas should require all law enforcement agencies to adopt eyewitness identification procedures that comply with a model policy promulgated by the Bill Blackwood Law Enforcement Management Institute of Texas (LEMIT).**

The Panel recommends that a model policy be developed and promulgated by LEMIT to make implementation easy for Texas law enforcement agencies.

3. **The State of Texas should integrate training on eyewitness identification procedures into the required curricula of the Bill Blackwood Law Enforcement Management Institute of Texas (LEMIT) and the Texas Commission on Law Enforcement Standards and Education (TCLEOSE).**

The Panel believes the law enforcement community can benefit from increased training on the science of eyewitness misidentification and how to prevent those errors through the policies advocated above.

4. **The State of Texas should permit evidence of compliance or noncompliance with the model policy to be admissible in court.**

Because jurors must weigh the quality and value of the evidence that is presented to them in order to determine the guilt or innocence of a defendant, it is important for evidence of

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<sup>1</sup> THE JUSTICE PROJECT, EYEWITNESS IDENTIFICATION PROCEDURES IN TEXAS 3 (2008), *available at* <http://www.thejusticeproject.org/wp-content/uploads/texas-eyewitness-report-final2.pdf>.

compliance or noncompliance with the model policy to be presented to them during a criminal trial. Without appropriate context for identification evidence, jurors may inadvertently rely on testimony resulting from a flawed procedure in their deliberations.

**5. The State of Texas should allow law enforcement agencies discretion on the adoption of sequential procedures.**

Although several jurisdictions in Texas have included sequential presentation in their eyewitness identification standard operating procedures, the majority of the Panel believes that the science is not yet settled on whether sequential presentation is superior to simultaneous presentation.

**Panel Report**

**Introduction**

Erroneous eyewitness identification has played a role in over 80 percent of Texas exonerations, making it is the most common factor that has contributed to wrongful convictions in Texas.<sup>2</sup> To guide policy discussions on this important subject, the Panel reviewed the existing laws relating to eyewitness identification procedures and evaluation, and the science of eyewitness identification. The Panel recommends that standardized eyewitness identification procedures and training are needed in law enforcement agencies across the state to prevent wrongful conviction through mistaken identifications, in line with the recommendations proposed in CSSB 117 during the 81<sup>st</sup> Legislature.

**Texas Case and Statutory Law**

Currently, there is no Texas statutory law governing eyewitness identification procedures, leaving methodology up to the discretion of local authorities. Although the Texas Court of Criminal Appeals and the United States Supreme Court have addressed problems of eyewitness error in their opinions, courtroom remedies alone may not be the most effective method available to prevent wrongful convictions. First, judicial remedies are applied only after potentially flawed eyewitness evidence is presented in court, and jurors may find it difficult to discount eyewitness testimony once presented. Second, science indicates that there are many facets of the identification procedure itself that can impact the outcome of the procedure. The composition of the lineup, the instructions given to the eyewitness, the lineup administrator, and the method of presentation may all play a role in: 1) whether an identification is made and 2) the lineup member who is identified. In order to effectively prevent wrongful conviction due to eyewitness error, those errors must be eliminated at the investigatory phase.

**The Science of Eyewitness Identification**

*Filler Selection*

One of the first considerations of an identification procedure is the selection of fillers for either a live or photographic lineup. Fillers (also known as “foils” or “distracters”) are people investigators believe to be innocent of a crime (*e.g.*, plain clothes officers or jail inmates, photos taken from a mug book or database) and are shown to an eyewitness witness along with the police suspect for a crime. When composing a lineup, fillers may be chosen using two common methods: those who resemble the suspect (*resemble-suspect*), or those who match the description

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<sup>2</sup> *Id.* at 1.

of the perpetrator (*match-description*). Although the theory is that fillers should resemble the suspect in a lineup (*resemble-suspect*) so the suspect does not unduly stand out, some argue that the strategy “promotes unnecessary or gratuitous similarities between distracters and the suspect.”<sup>3</sup> These researchers advocate the match-description strategy, arguing that as long as all fillers match the initial description of the culprit given by the eyewitness, the police suspect should be sufficiently hidden among the fillers to ensure that the procedure is a recognition test.

### *Cautionary Instructions and Sequential Presentation*

When an eyewitness is given the task of reviewing a lineup, a reasonable expectation may exist that the police would not make the effort to assemble a lineup unless they felt they had a viable suspect for the crime. If the eyewitness assumes that the perpetrator is in the lineup, then he or she is likely to simply select the subject who most closely resembles the perpetrator.<sup>4</sup> To guard against this potential problem, lineup administrators should explicitly instruct the witness that the lineup *may or may not* contain the actual perpetrator and to give additional guidance that it is just as important to free innocent people from suspicion as it is to identify the guilty party.<sup>5</sup> Such cautionary instructions are unbiased and may reduce the pressure on an eyewitness to make an identification.<sup>6</sup>

To further reduce this pressure, scholars have tested a method of sequential presentation. With sequential presentation, an eyewitness is shown lineup members individually and asked after each photo to determine if that photo is of the perpetrator. Initial results using the sequential method seemed to support the superiority of the method,<sup>7</sup> but subsequent studies on the procedure have not provided a definitive answer on the utility of sequential over simultaneous lineups. Results have shown that although sequential lineups may reduce false identifications, they may also reduce correct identifications.<sup>8</sup>

<sup>3</sup> Gary L. Wells, Sheila M. Rydell & Eric P. Seelau, *The Selection of Distractors for Eyewitness Lineups*, 78 J. APPLIED PSYCHOL. 835, 835 (1993) The authors suggest that if the suspect does not match the eyewitness' description, fillers should be chosen who match on the features where there is a discrepancy (e.g., eyewitness described curly hair, but the suspect has straight hair; fillers should have straight hair), but they are free to vary on other features. *Id.*

<sup>4</sup> Gary L. Wells, Roy S. Malpass, R.C.L. Lindsay, Ronald P. Fisher, John W. Turtle & Solomon M. Fulero, *From the Lab to the Police Station: A Successful Application of Eyewitness Research*, 55 AM. PSYCHOLOGIST 581, 585 (2000).

<sup>5</sup> *Id.* at 575-76.

<sup>6</sup> *Id.* at 576.

<sup>7</sup> See Brian L. Cutler & Steven D. Penrod, *Improving the Reliability of Eyewitness Identification: Lineup Construction and Presentation*, 73 J. APPLIED PSYCHOL. 281 (1988); R. C. L. Lindsay, James A. Lea & Jennifer A. Fulford, *Sequential Lineup Presentations: Technique Matters*, 76 J. APPLIED PSYCHOL. 741 (1991); R. C. L. Lindsay, James A. Lea, Glenn J. Nosworthy, Jennifer A. Fulford, Julia Hector, Virginia LeVan & Carolyn Seabrook, *Biased Lineups: Sequential Presentation Reduces the Problem*, 76 J. APPLIED PSYCHOL. 796 (1991); R. C. L. Lindsay & Gary L. Wells, *Improving Eyewitness Identifications from Lineups: Simultaneous Versus Sequential Lineup Presentation*, 70 J. APPLIED PSYCHOL. 556 (1985).

<sup>8</sup> See R. C. L. Lindsay, Jamal K. Mansour, Jennifer L. Beaudry, Amy-May Leach & Michelle I. Bertrand, *Sequential Lineup Presentation: Patterns and Policy*, 14 LEGAL & CRIMINOLOGICAL PSYCHOL. 13 (2009); Roy S. Malpass, *A Policy Evaluation of Simultaneous and Sequential Lineups*, 12 PSYCHOL. PUB. POL'Y & L. 394 (2006); Roy S. Malpass, Colin G. Tredoux & Dawn McQuiston-Surret, *Public Policy and Sequential Lineups*, 14 LEGAL AND CRIMINOLOGICAL PSYCHOL. 1 (2009); Roy S. Malpass, Colin G. Tredoux & Dawn McQuiston-Surret, *Response to Lindsay, Mansour, Beaudry, Leach and Bertrand's Sequential Lineup Presentation: Patterns and Policy*, 14 LEGAL & CRIMINOLOGICAL PSYCHOL. 25 (2009).

### *Confidence, Accuracy, and Double-Blind Procedures*

Research into the relationship between eyewitness confidence and accuracy has demonstrated that the relationship is inconsistent at best, most likely because the confidence-accuracy relationship is malleable through both expectancy effects and post-identification feedback. Expectancy effects exist when an administrator knows the identity of a suspect in an eyewitness lineup and gives (often unintentional) verbal and nonverbal cues that enhance the likelihood that the suspect will be chosen. Research has found that administrators who know the identity of the suspect can influence the selection made by the eyewitness. In addition, administrators who know the identity of a police suspect may impact the confidence-accuracy relationship through post-identification feedback.<sup>9</sup> This feedback occurs when police communicate to an eyewitness that he or she has identified the suspect through either verbal (“Good, you picked the suspect.”) or nonverbal (nodding, smiles, etc.) means, and studies have shown that feedback can artificially inflate an eyewitness’ confidence in that identification.<sup>10</sup>

Researchers have tested ways to prevent these impacts on the confidence-accuracy relationship. First, eyewitnesses may be asked for their confidence in their identifications before any feedback is provided to them. This is valuable because “the certainty of the witness at the time of the identification, uncontaminated by feedback, would then be available at trial through discovery motions.”<sup>11</sup> Second, scholars suggest that law enforcement can ensure that the person who conducts the lineup is unaware of which member is the police suspect.<sup>12</sup> Researchers have found that these measures all but eliminate administrator influence from the procedures.<sup>13</sup>

### **Organizations’ Recommended Practices**

The studies summarized above have led researchers to develop a set of recommendations for the conduct of eyewitness identification lineups. Scientists generally agree that lineups should contain only one suspect, the suspect should not unduly stand out from the fillers, appropriate cautionary instructions are needed, the administrator of the lineup should not know who is the police suspect (double-blind procedures), and the administrator should collect a confidence statement from the eyewitness at the time of the identification before any feedback is given.<sup>14</sup> Many of these recommendations have been adopted by organizations such as the Department of Justice, the American Bar Association, and the International Association of Chiefs of Police (*see table below*). In Texas, the Governor’s Criminal Justice Advisory Council and the Texas Criminal Justice Integrity Unit have both called for additional study and reform of eyewitness identification procedures.

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<sup>9</sup> See Gary L. Wells, Amina Memon & Steven Penrod, *Eyewitness Evidence: Improving Its Probative Value*, 7 PSYCHOL. SCI. PUB. INT. 45 (2006) (reviewing the literature on confidence and accuracy).

<sup>10</sup> Carolyn Semmler, Neil Brewer & Gary L. Wells, *Effects of Postidentification Feedback on Eyewitness Identification and Nonidentification Confidence*, 59 J. APPLIED PSYCHOL. 334, 342 (2004).

<sup>11</sup> Amy L. Bradfield, Gary L. Wells & Elizabeth A. Olson, *The Damaging Effect of Confirming Feedback on the Relation Between Eyewitness Certainty and Identification Accuracy*, 87 J. OF APPLIED PSYCHOL. 112, 119 (2002).

<sup>12</sup> See generally Wells et al., *supra* note 3.

<sup>13</sup> Carolyn Semmler, Neil Brewer & Gary L. Wells, *Effects of Postidentification Feedback on Eyewitness Identification and Nonidentification Confidence*, 59 J. APPLIED PSYCHOL. 334, 335 (2004).

<sup>14</sup> See Gary L. Wells, *Eyewitness Identification: Systemic Reforms*, 2006 WIS. L. REV. 615 (2006); Gary L. Wells, Mark Small, Steven Penrod, Roy S. Malpass, Solomon M. Fulero & C. A. E. Brimacombe, *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 22 LAW & HUM. BEHAV. 1 (1998).

### Summary of Organizations' Recommended Practices

	DOJ <sup>15</sup>	ABA <sup>16</sup>	IACP <sup>17</sup>
<b>Filler Selection</b>	<ul style="list-style-type: none"> <li>• One suspect per lineup</li> <li>• Fillers should match witness' description of perpetrator</li> <li>• Minimum of 5 fillers (4 for live lineups)</li> </ul>	<ul style="list-style-type: none"> <li>• Fillers should match witness' description of perpetrator</li> <li>• Sufficient number of fillers needed</li> </ul>	<ul style="list-style-type: none"> <li>• One suspect per lineup</li> <li>• Individuals of similar physical characteristics</li> <li>• Minimum of 5 fillers (4 for live lineups)</li> <li>• Photographs themselves should be similar</li> </ul>
<b>Cautionary Instructions</b>	<ul style="list-style-type: none"> <li>• "Just as important to clear innocent persons"</li> <li>• "Person who committed the crime may or may not be present"</li> <li>• "Regardless of whether an identification is made, police will continue to investigate"</li> </ul>	<ul style="list-style-type: none"> <li>• "Perpetrator may or may not be in the lineup"</li> <li>• "Do not assume that the person administering lineup knows identity of suspect"</li> <li>• "Need not identify anyone"</li> </ul>	<ul style="list-style-type: none"> <li>• "Just as important to clear innocent persons"</li> <li>• "Person who committed the crime may or may not be present"</li> <li>• "You do not have to identify anyone"</li> <li>• "Regardless of whether an identification is made, we will continue to investigate"</li> </ul>
<b>Lineup Administration</b>	<ul style="list-style-type: none"> <li>• Instructions for both simultaneous and sequential procedures</li> <li>• Blind administration not addressed</li> </ul>	<ul style="list-style-type: none"> <li>• Blind administration whenever practicable</li> </ul>	<ul style="list-style-type: none"> <li>• Blind administration whenever possible</li> <li>• Note that sequential procedures have been recommended by some</li> </ul>
<b>Documentation</b>	<ul style="list-style-type: none"> <li>• Ask witness to state, in her own words, how certain she is of any identification</li> <li>• Preserve photos and presentation order</li> <li>• Video or audio recommended for live lineups</li> <li>• Record identification and nonidentification results in writing</li> </ul>	<ul style="list-style-type: none"> <li>• Ask witness to state, in her own words, how certain she is of any identification</li> <li>• Video record recommended of lineup procedure</li> <li>• Photos should be taken of lineup</li> </ul>	<ul style="list-style-type: none"> <li>• Video or audio tape live lineup whenever possible</li> <li>• Preserve photo array for future reference</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Recommendations for initial reports by first responders, mug books and composites, procedures for interviewing witness, show-ups</li> </ul>	<ul style="list-style-type: none"> <li>• Training for police and prosecutors on how to implement recommendations, conduct non-suggestive lineups</li> </ul>	<ul style="list-style-type: none"> <li>• Recommendations for multiple witnesses, blank lineups, right to counsel at eyewitness identifications</li> </ul>

<sup>15</sup> TECHNICAL WORKING GROUP FOR EYEWITNESS EVIDENCE, U.S. DEP'T OF JUSTICE, *Eyewitness Evidence: A Guide for Law Enforcement* (1999), available at <http://www.ncjrs.gov/pdffiles1/nij/178240.pdf>.

<sup>16</sup> ABA CRIMINAL JUSTICE SECTION, *Report to the House of Delegates: Recommendation of Best Practices for Promoting the Accuracy of Eyewitness Identification Procedures* (2004), available at <http://meetings.abanet.org/webupload/commupload/CR209700/relatedresources/ABAEyewitnessIDrecommendations.pdf>

<sup>17</sup> INT'L ASS'N OF CHIEFS OF POLICE, *Training Key No. 600, Eyewitness Identification* (2006).

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**Eyewitness Evidence  
Improving Its Probative Value**

# Eyewitness Evidence

## Improving Its Probative Value

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**SUMMARY**—*The criminal justice system relies heavily on eyewitnesses to determine the facts surrounding criminal events. Eyewitnesses may identify culprits, recall conversations, or remember other details. An eyewitness who has no motive to lie is a powerful form of evidence for jurors, especially if the eyewitness appears to be highly confident about his or her recollection. In the absence of definitive proof to the contrary, the eyewitness's account is generally accepted by police, prosecutors, judges, and juries.*

However, the faith the legal system places in eyewitnesses has been shaken recently by the advent of forensic DNA testing. Given the right set of circumstances, forensic DNA testing can prove that a person who was convicted of a crime is, in fact, innocent. Analyses of DNA exoneration cases since 1992 reveal that mistaken eyewitness identification was involved in the vast majority of these convictions, accounting for more convictions of innocent people than all other factors combined. We review the latest figures on these DNA exonerations and explain why these cases can only be a small fraction of the mistaken identifications that are occurring.

Decades before the advent of forensic DNA testing, psychologists were questioning the validity of eyewitness reports. Hugo Münsterberg's writings in the early part of the 20th century made a strong case for the involvement of psychological science in helping the legal system understand the vagaries of eyewitness testimony. But it was not until the mid- to late 1970s that psychologists began to conduct programmatic experiments aimed at understanding the extent of error and the variables that govern error when eyewitnesses give accounts of crimes they have witnessed. Many of the experiments conducted in the late 1970s and throughout the 1980s resulted in articles by psychologists that contained strong warnings to the legal system that eyewitness evidence was being overvalued by the justice system in the sense that its impact on triers of fact (e.g., juries) exceeded its probative (legal-proof) value. Another message of the research was that the

validity of eyewitness reports depends a great deal on the procedures that are used to obtain those reports and that the legal system was not using the best procedures.

Although defense attorneys seized on this nascent research as a tool for the defense, it was largely ignored or ridiculed by prosecutors, judges, and police until the mid 1990s, when forensic DNA testing began to uncover cases of convictions of innocent persons on the basis of mistaken eyewitness accounts. Recently, a number of jurisdictions in the United States have implemented procedural reforms based on psychological research, but psychological science has yet to have its fullest possible influence on how the justice system collects and interprets eyewitness evidence.

The psychological processes leading to eyewitness error represent a confluence of memory and social-influence variables that interact in complex ways. These processes lend themselves to study using experimental methods. Psychological science is in a strong position to help the criminal justice system understand eyewitness accounts of criminal events and improve their accuracy. A subset of the variables that affect eyewitness accuracy fall into what researchers call system variables, which are variables that the criminal justice system has control over, such as how eyewitnesses are instructed before they view a lineup and methods of interviewing eyewitnesses. We review a number of system variables and describe how psychological scientists have translated them into procedures that can improve the probative value of eyewitness accounts. We also review estimator variables, variables that affect eyewitness accuracy but over which the system has no control, such as cross-race versus within-race identifications.

We describe some concerns regarding external validity and generalization that naturally arise when moving from the laboratory to the real world. These include issues of base rates, multicollinearity, selection effects, subject populations, and psychological realism. For each of these concerns, we briefly note ways in which both theory and field data help make the case for generalization.

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## INTRODUCTION

Kirk Bloodsworth had never been in trouble with the law, and yet he was convicted in March 1985 for the 1984 sexual assault and slaying of a 9-year-old girl in Maryland (*State of Maryland v. Kirk N. Bloodsworth*, 1984). Five eyewitnesses identified Bloodsworth at trial. Later that month, a judge sentenced him to death. He spent 2 years on death row before he received a new trial based on the prosecution's withholding of information about other suspects. This time he received a life sentence. Bloodsworth maintained a claim of innocence from the outset, but it was not until 1993 that he was released from prison on the basis of DNA testing that proved he was not the source of semen found in the little girl's underwear. Bloodsworth was lucky that the underwear had been preserved, because earlier (pre-DNA) tests had indicated nothing of value on the underwear. But what kind of luck is being convicted of a murder you did not commit? His mother died while he was in prison, before learning the truth that he was innocent. And despite his release from prison, some people, including one of the original prosecutors, continued to believe that Bloodsworth may have been the murderer. The eyewitness evidence just seemed too strong. Maybe Bloodsworth really was the murderer, they reasoned, and the tiny speck of semen came from someone other than the murderer—perhaps someone who had access to the little girl's dresser drawer, for instance. Bloodsworth went on with his life, confident in his own innocence but having to live with the occasional doubt raised by those who somehow remained unpersuaded. Then, in September 2003, DNA testing got a hit on the actual murderer, Kimberly Shay Ruffner. Nineteen years after Kirk Bloodsworth was sentenced to death, the proof was finally there: He had had nothing to do with the sexual assault and slaying of the young girl.

The case of Kirk Bloodsworth illustrates several problems with eyewitness evidence. First, it illustrates the fallacy of assuming that inter-witness agreement is necessarily strong evidence of accuracy. Many factors can lead to inter-witness agreement, such as interaction among the witnesses in which they share information. In general, factors that lead one eyewitness to make a particular error will lead others to make the same error. Second, the Bloodsworth case illustrates the profound level of proof required for exonerating evidence to trump eyewitness identification evidence. Even when the semen was proved not to match Bloodsworth's DNA, many people were unwilling to believe he was innocent. It was necessary to prove that someone else had committed the murder. Third, the Bloodsworth case illustrates that mistaken identification is a dual problem: Not only might an innocent person be convicted but the guilty party remains free to reoffend.

The role of scientific psychology in the problem of eyewitness evidence is a profound one. With few exceptions, the legal system has not conducted research on eyewitness evidence, has never conducted an experiment on memory, and has no scientific theory regarding how memory works. The scientific study of

eyewitnesses is purely the domain of psychology. When the U.S. Department of Justice finally wrote guidelines on eyewitness evidence in 1999, the only scientific studies cited were those published by psychologists in psychology journals. Today, psychology is engaged in an active dialogue with judges, police, and prosecutors on ways to improve the probative (evidentiary) value of eyewitness reports. The credibility of scientific psychology has risen immensely in the legal system recently, largely because psychologists were already "blowing the whistle" on eyewitness evidence well before forensic DNA testing began uncovering mistaken identifications in the 1990s. In effect, psychologists were able to use experiments to identify eyewitness problems long before the legal system was smacked in the face with DNA exonerations.

A primary purpose of this article is to describe empirical evidence supporting the proposition that some of the problems with eyewitness evidence can be addressed by improving the way the evidence is collected and preserved. We discuss how eyewitnesses are interviewed, how lineups are conducted, and why procedures can have a strong impact on the resulting probative value of eyewitness testimony. These variables are called system variables, because they are under the control of the justice system (Wells, 1978). The importance of system variables that can reduce eyewitness error has become increasingly apparent in light of the proven inadequacies of traditional safeguards against eyewitness mistakes, such as the presence of counsel at lineups and the opportunity to present motions to suppress suggestive procedures (Stinson, Devenport, Cutler, & Kravitz, 1996, 1997). But even if the system reaches a point at which it makes perfect use of system variables, eyewitness errors attributable to other factors will remain. Thus, it is important to review these other (non-system-controlled) factors as well.

This monograph is not intended as an exhaustive review of the eyewitness literature. Instead, we focus on practices, procedures, and research that address the most common threats to eyewitness reliability. Although the bulk of the scientific and legal literature we cite has a North American origin, the international research community has made extremely important contributions. In fact, historically, it was Europeans who played the much greater role in the study of eyewitness memory.<sup>1</sup>

We begin with a brief history of psychology's attempt to help the legal system on the eyewitness issue. Then we describe the DNA exoneration cases that began to unfold in the 1990s and the role these exonerations have played in giving scientific psychology a stronger voice in the legal system's policies and procedures involving eyewitness evidence. We then give an overview of the standard methods used in eyewitness research, followed by selected findings on estimator and system variables.

<sup>1</sup>We are fortunate to have Siegfried Sporer, a strong European contributor to the empirical literature on eyewitness issues, write the editorial preceding this monograph (see p. i). Sporer places our report in a broader historical and international context.

## A BRIEF HISTORY OF EYEWITNESS PSYCHOLOGY

In his book *La Suggestibilité*, Alfred Binet (1900) argued for the creation of a practical science of testimony based on his observations about the effects of suggestion. Binet was the first to report that suggestive questioning influenced responses. But it was German psychologists who were among the first to argue that how eyewitnesses were questioned makes a great deal of difference. Louis William Stern was publishing and editing studies of eyewitness testimony as early as 1904 (Stern, 1904). In the United States, Guy Montrose Whipple published a number of articles in *Psychological Bulletin* on eyewitness testimony (Whipple, 1909, 1910, 1911, 1912). But it was Hugo Münsterberg's (1908) book *On the Witness Stand* and his injection of himself into the legal system that had a more lasting impact in the United States.

Münsterberg was recruited by William James in 1892 to come to Harvard to run the university's psychological laboratory. Münsterberg was very much a public figure and he appeared frequently in the popular press. He also was a somewhat controversial figure at Harvard, presumably because his colleagues did not see a great deal of merit in applying psychology. His lectures and writings were extremely perceptive and well reasoned, albeit rather short on data by modern standards. His prescience is evident in such matters as his claim that eyewitness certainty has a tenuous relation to accuracy and that while jurors might understand forgetting, they are not likely to understand that a witness can remember the wrong thing.

Although Münsterberg maintained a certain prominence in psychology, his impact on the legal system was muted dramatically by the skilled counterargumentation of one of the greatest minds in American jurisprudence, John Henry Wigmore. Particularly problematic for Münsterberg was a law review article by Wigmore (1909) that challenged Münsterberg's (1908) overstatements about the ability of psychology to help the legal system. Wigmore was especially effective in arguing that psychology did not yet have ready tools for handling the problem of evaluating eyewitness accounts, as Münsterberg had claimed. For the most part, Wigmore won the argument, at least from the perspective of the legal system.

Eyewitness research fell to a trickle in the period of the 1920s to 1960s. Some important work was done in the 1930s by Burt (1931) and Stern (1939). The 1940s produced some important studies by Snee and Lush (1941) on question effects and by Allport and Postman (1947) on person-to-person information transfer. And although Hastorf and Cantrill (1954) demonstrated the effects of personal prejudice on perception in the 1950s, there was little discussion of the relevance of this to the legal system and to eyewitnesses in general. There are differing accounts of why these decades were largely devoid of eyewitness psychology. Sporer (1982) argues that it was the result of zealous overgeneralizations by psychologists that failed to meet the needs and standards of the courtroom.

## The Modern Era of Eyewitness Research

More than any other individual's work, it was Elizabeth Loftus's elegant experiments on postevent information that gave rise to the modern era of eyewitness research. Loftus managed to show that realistic stimuli, such as pictures of stop signs and red barns in their natural settings, could be used in rigorous scientific experiments that revealed basic phenomena in memory and also had practical utility for understanding eyewitness error. By publishing her work in prestigious scientific psychology journals in the mid- and late 1970s—journals such as *Cognitive Psychology*, *Journal of Verbal Learning and Verbal Behavior*, and *Journal of Experimental Psychology: Human Learning and Memory*—Loftus legitimized the study of eyewitnesses in the minds of psychological scientists. Her book *Eyewitness Testimony* (Loftus, 1979) remains one of the best known psychology books almost three decades after it was released. Like Münsterberg, Loftus was criticized for some of her claims (e.g., McCloskey & Egeth, 1983), but, unlike Münsterberg, she helped spawn a new generation of researchers who have carefully and strategically built an empirical literature that the legal system must contend with.

While Loftus was focusing on memory for events and the malleability of memory, Robert Buckhout at Brooklyn College was focusing on memory for people. Buckhout was more concerned with mistaken identification from lineups than with memory for objects. Although Buckhout wrote a highly visible article in *Scientific American* reviewing research on eyewitness reliability (Buckhout, 1974), he was not otherwise particularly successful in getting his work published in scientific psychology journals. He did, however, create his own "in house" outlet called *Social Action and the Law*. Buckhout often used dramatic means to get his point across. For example, he got a New York City television station to broadcast a staged mugging followed by a six-person lineup. Of the 2,145 viewers who called in, nearly 2,000 mistakenly identified the mugger in the lineup (Buckhout, 1980). It is possible that Buckhout could have published some of his experiments in better journals but chose not to spend the time and effort required to go through the rigorous review process. Still, Buckhout influenced many younger researchers, who took up the issue of mistaken identification. At about the same time, eyewitness research activity was growing in the United Kingdom, prompted by the investigation of the Devlin Committee (Devlin, 1976; see also Bull & Clifford, 1976; Clifford & Bull, 1978; Davies, Ellis, & Shepherd, 1978; Ellis, Davies, & Shepherd, 1977).

One of the organizing themes that emerged from the 1970s was the distinction between system variables and estimator variables (Wells 1978). The argument was that some of the variables that affect the accuracy of eyewitness reports were under the control (or potentially under the control) of the justice system (system variables) while others were not (estimator variables). For example, how eyewitnesses are interviewed by police and how eyewitnesses are instructed prior to viewing a

lineup are system variables, because they can be controlled by the system that is collecting the eyewitness evidence. Other variables—such as cross-race versus within-race identifications or stress experienced by the witness during the event—cannot be controlled by the system. Both system and estimator variables can be controlled and manipulated in experiments, but only system variables can be controlled in actual cases. Variables that cannot be controlled by the justice system (even though they can be controlled in experiments) are called estimator variables because the best that eyewitness psychology can do is help estimate their impact in a given case.

The singling out of system variables was important, because it addressed the primary argument that Wigmore used in his devastating criticism of Münsterberg—namely, that psychology had no practical recommendations for dealing with the eyewitness problem. Loftus's main findings fit nicely into the system-variable framework. For instance, if certain types of questions (leading questions) result in eyewitnesses incorporating information into their later reports regarding matters they did not witness, then psychology could devise practical ways to avoid this problem. Likewise, if certain instructions to eyewitnesses prior to viewing a lineup reduce the chances of mistaken identification, then psychology could advise on the best ways to instruct eyewitnesses.

Throughout the 1970s and 1980s, eyewitness research was largely ignored by the criminal justice system. The big exception was criminal defense lawyers. Defense lawyers were quick to recognize the potential for psychology to help them convince juries that eyewitness memory was not to be trusted, and they saw expert testimony as the mechanism to do this. The battle to permit expert testimony on eyewitness issues, however, was and is a contentious one. Expert testimony has been both permitted and denied in nearly every state in the United States, depending on the discretion of the trial judge. Prosecutors generally use four arguments against the admission of expert testimony on eyewitness issues. One argument is that the eyewitness literature is not sufficiently mature or precise to be considered scientific. Today, this argument almost never prevails. However, the three other arguments continue to prevent expert testimony on eyewitness issues in many jurisdictions. One is that such testimony invades the province of the jury, because it is the jury that must decide the credibility of witnesses. Another argument is that the findings are merely a matter of common sense and that juries already know these things from their everyday experience. Yet another argument is that the prejudicial value of expert testimony regarding eyewitnesses outweighs its probative value. This argument assumes that eyewitness experts can make juries more dubious of the eyewitness than they ought to be. It is not the purpose of the current monograph to argue the merits of expert testimony. We simply note that expert testimony for the defense was, until recently, virtually the only way the legal system acknowledged the scientific study of eyewitnesses.

**Forensic DNA Testing: An Awakening of the Legal System**  
Much has changed in the past few years, but not because of any change in how eyewitness scientists have approached their work. Rather, the advent of forensic DNA testing has changed the way the legal system views eyewitness evidence. Previous studies of the conviction of innocent people had shown that mistaken eyewitness identification was implicated in the majority of wrongful conviction cases (e.g., Borchard, 1932; Frank & Frank, 1957; Huff, Rattner, & Sagarin, 1986). But it was the development of forensic DNA testing in the 1990s that permitted definitive cases of the conviction of innocent people in the United States to be uncovered. Defense lawyers Barry Scheck and Peter Neufeld, cofounders of the Innocence Project in New York City, took the lead and are still the central figures in facilitating the use of forensic DNA to test claims of innocence by people who were convicted by juries. Scheck and Neufeld were quick to see the pattern: Eyewitness-identification error was at the heart of the evidence used to convict the vast majority of these innocent people. Press accounts of these exonerations caught the attention of U.S. Attorney General Janet Reno, and an early report commissioned by Reno revealed that 26 of the first 28 exonerations were cases of mistaken eyewitness identification (Connors, Lundregan, Miller, & McEwan, 1996). Follow-ups revealed that 36 of the first 40 DNA exonerations were mistaken-identification cases (Wells, Small, Penrod, Malpass, Fulero, & Brimacombe, 1998). Scheck, Neufeld, and Dwyer (2000) reported that 52 of the first 62 DNA exonerations were mistaken-identification cases. As of this writing, there have been more than 180 definitive DNA exonerations; the proportion that involves mistaken eyewitness identification continues to run about 75% or more. The Innocence Project in New York maintains an up-to-date Web site, [www.innocenceproject.org](http://www.innocenceproject.org), that catalogues these DNA exonerations, and there are now innocence projects worldwide ([http://forejustice.org/wc/wrongful\\_conviction\\_websites.htm](http://forejustice.org/wc/wrongful_conviction_websites.htm)).

Before the DNA exoneration cases, some people believed that the results of eyewitness experiments in psychology were mere academic exercises, games played with people's memories that would not apply to real witnesses and real crimes. At the very least, the DNA exonerations have proved that eyewitnesses can be absolutely positive and yet absolutely mistaken, just as was found in the experiments. But do 180-plus cases of mistaken identification prove anything? If these cases were the total, then it might be argued that this is a rather small fraction of convictions. But consider the following observations. Virtually all of these DNA exoneration cases involved sexual assault. Some also involved murder, robbery, and other offenses, but sexual assault is the common feature.

It is not that sexual assault witnesses are especially poor eyewitnesses. In fact, they might be the very best at identifying their attackers, because they tend to get longer, closer views of them than do victims of most other crimes. The reason these DNA exoneration cases are sexual assault cases is because they are the

cases for which biologically rich DNA traces were left behind by the perpetrator in the form of semen. (In 2004, nearly 95,000 sexual assaults were reported, with a 43% clearance rate. For crime statistics, see [www.fbi.gov/ucr/cius\\_04/offenses\\_reported/violent\\_crime/index.html](http://www.fbi.gov/ucr/cius_04/offenses_reported/violent_crime/index.html).) Stranger-rape cases, in which identification is most likely to be an issue, constitute less than a third of all reported sexual assaults. More than 70% of reported sexual assaults involve an intimate partner, relative, or acquaintance, so about 30,000 cases of stranger-rape come to the attention of the police each year. In contrast to sexual assault cases, only a small fraction of murders (more than 16,000 reported in 2004) and almost no robberies (more than 400,000 reported in 2004) or aggravated assaults (more than 850,000 reported in 2004) result in biologically rich trace evidence being left behind. What can the person who was convicted of a convenience store robbery or a drive-by shooting use to prove that the eyewitness identification was mistaken? Thus, these 180-plus DNA exonerations represent a small proportion of the crimes for which eyewitness identification evidence has been used to convict people. Furthermore, only a fraction of old sexual assault convictions can now be tested, because the evidence was never collected, was collected improperly, has deteriorated, has been lost, or has been destroyed. All in all, the 180 (and growing) DNA exonerations can only be a small fraction of the total number of cases in which people have been convicted because they were mistakenly identified by eyewitnesses.

We will not venture an estimate of the number of people in prison who are innocent victims of mistaken eyewitness identification. Instead, our focus is on what the legal system might be able to do to help prevent these mistakes from occurring in the future. This is where we have seen some promising progress recently. Janet Reno's appointment of a working group to develop guidelines for eyewitness evidence was a watershed event, because the group included five eyewitness researchers. Reno recognized that scientific psychology was well ahead of the legal system both in recognizing the eyewitness problem and in developing solutions for it. An account of this process, which yielded the first set of U.S. national guidelines on eyewitness evidence, has been published elsewhere (Wells, Malpass, Lindsay, Fisher, Turtle, & Fulero, 2000). Since the publication of the guide, a number of jurisdictions have formally adopted the recommendations and have gone well beyond the guide to include procedural changes recommended by eyewitness scientists. These jurisdictions include the states of New Jersey, North Carolina, and Wisconsin, as well as the cities of Boston and Minneapolis, among others (Wells, 2006).

Despite these encouraging reforms, it is estimated that only about 10% of the U.S. population reside in reformed jurisdictions (Wells, 2006). Will these system-variable improvements continue by increasing numbers of jurisdictions in the years to come? Only time will tell. In the following sections we review some of the evidence that has led to the changes, and we note how the eyewitness-research area must continue to

develop to ensure that the evolving relationship between the legal system and psychological science will be a fruitful and lasting one.

## COMMON METHODS USED IN EYEWITNESS RESEARCH

The experimental method has dominated the eyewitness literature, and most of the experiments are lab based. Lab-based experimental methods for studying eyewitness issues have strengths and weaknesses. The primary strength of experimental methods is that they are proficient at establishing cause-effect relations. This is especially important for research on system variables, because one needs to know in fact whether a particular system manipulation is expected to cause better or worse performance. In the real world, many variables can operate at the same time and in interaction with one another. Multicollinearity can be quite a problem in archival/field research, because it can be very difficult to sort out which (correlated) variables are really responsible for observed effects. The control of variables that is possible in experimental research can bring clarity to causal relationships that are obscured in archival research. For example, experiments on stress during witnessing have shown, quite compellingly, that stress interferes with the ability of eyewitnesses to identify a central person in a stressful situation (Morgan et al., 2004; Deffenbacher, Bornstein, Penrod, & McGorty, 2004). However, when Yuille and Cutshall (1986) studied multiple witnesses to an actual shooting, they found that those who reported higher stress had better memories for details than did those who reported lower stress. Why the different results? In the experimental setting, stress was manipulated while other factors were held constant; in the actual shooting, those who were closer to the incident reported higher levels of stress (presumably because of their proximity) but also had a better view. Thus, in the actual case, stress and view covaried.

The experimental method is not well suited to postdiction with estimator variables—that is, there may be limits to generalizing from experiments to actual cases. One reason is that levels of estimator variables in experiments are fixed and not necessarily fully representative of the values observed in actual cases. In addition, it is not possible to include all interesting and plausible interactions among variables in any single experiment (or even in a modest number of experiments). Clearly, generalizations to actual cases are best undertaken on the basis of a substantial body of experimental research conducted across a wide variety of conditions and employing a wide variety of variables. Nevertheless, the literature is largely based on experiments due to a clear preference by eyewitness researchers to learn about cause and effect. Furthermore, “ground truth” (the actual facts of the witnessed event) is readily established in experiments, because the witnessed events are creations of the experimenters. That kind of ground truth is difficult, if not impossible, to establish when analyzing actual cases.

### Experimental Methods

The ecological validity of witnessed events (when examined at the surface level) varies considerably across experiments. Some eyewitness experiments simply show slides to participant witnesses, while others stage live crimes. Some of the staged crimes have been elaborate ruses in which calls are made to "police" (actually confederates of the experimenter) and participants are shown lineups while still believing that what they witnessed was real (e.g., Luus & Wells, 1994; Wells & Murray, 1983). Perhaps the most common witnessed event used by researchers is the video crime. The immense time and cost involved in staging live crimes has undoubtedly made them less common in the literature in recent years, but the success of video crime experiments in the peer-review process suggests that researchers believe this method manages to capture the elements that are important for studying eyewitness processes. Usually, the memory-acquisition process is incidental in the sense that the participant witnesses do not know when they watch the video that the study concerns eyewitness memory. Instead, researchers commonly tell them that they are going to have to form impressions or make judgments about the people or scenes. Only later are they informed that the study concerns eyewitness memory.

In lineup experiments, the participant witnesses are usually tested with photo lineups rather than with live lineups. Again, the savings in cost and time are factors, but the use of photo lineups in experiments parallels their use in actual cases. In the United Kingdom, there has been a move toward the use of video lineups (Pike, Kemp, Towell, & Phillips, 1997; Valentine & Heaton, 1999). Although some jurisdictions (such as New York) still use live lineups, most jurisdictions in the United States use photo lineups. Even where live lineups are in common use, more often than not they are preceded by a photo lineup, and the live lineup is merely a confirmatory tool. Thus, the prevalence of photo lineups in experiments reflects what is happening in actual criminal investigations.

It is standard practice in experiments to use lineups in which the actual perpetrator is present in the lineup for some participant witnesses and not present for others. The not-present lineups (target-absent or perpetrator-absent lineups) are critically important for eyewitness-identification studies that are designed to examine accuracy. Target-absent lineups simulate the real-world situation in which police have focused their suspicion on an innocent suspect. The standard procedure in lineup experiments is to create a target-absent lineup by replacing the target with another person who fits the target's description and leaving the fillers (the innocent distracters or foils in the lineup) the same.

Participant witnesses in experiments typically take the perspective of a bystander rather than a victim. However, some experiments have examined possible differences between bystander eyewitnesses and victim eyewitnesses and have found no significant differences (Hosch & Cooper, 1982; Hosch, Leippe, Marchioni, & Cooper, 1984).

Participant witnesses in experiments are typically college students. The reliance on this population has been criticized, especially by prosecutors. However, many experiments have included other populations, such as young children, adults, and the elderly. Importantly, when differences are found, the results favor the college students. Specifically, college students are less suggestible and more accurate as eyewitnesses overall than are either children or the elderly (Cutler & Penrod, 1995; Searcy, Bartlett, & Memon, 1999). Presumably this is due to the higher education level, intelligence, memory ability, visual acuity, alertness, and general health of college students relative to the general population. Thus, if anything, heavy reliance on college student subject populations for eyewitness research may paint an unrealistically rosy picture of eyewitness abilities.

Within the basic eyewitness-experiment paradigm, manipulations are embedded and their effects are observed. For example, an experiment focusing on system variables might have everyone view the same simulated crime and then randomly assign some participant witnesses to receive a postevent suggestion or randomly assign some to receive a particular pre-lineup instruction. In an experiment focusing on estimator variables, participants might be randomly assigned to view a crime in which the perpetrator is of a different race or the same race or to make an identification after a short delay or after a long delay.

### Archival Methods

Although the experimental method is preferred, archival studies of eyewitnesses have become more common in recent years. A major drawback to archival studies is the inability to establish cause and effect and the questionable basis for assuming ground truth. Studies of the DNA exoneration cases involve ground truth for identity of the perpetrator, but these are only case studies, not archival analyses. Archival analyses have proven to be particularly informative with regard to lineups. A lineup that is properly constructed includes only one suspect (who might or might not be the perpetrator); the other people in the lineup are innocent fillers who would not be charged with the crime if they were identified by the eyewitness. Thus, when an eyewitness selects a filler in an actual lineup, it is immediately classifiable as an error. It is not the type of error that could send an innocent person to jail (only identifications of an innocent *suspect* could do that), but it is an identification error nevertheless.

Archival analyses of filler identifications have yielded very interesting results. Wright and McDaid (1996) analyzed 1,561 lineup outcomes in London and found filler-identification rates of 19.9%. These data are similar to the 21% filler identification rate reported by Slater (1994) in a study of 843 lineups conducted by the Metropolitan Police in London. Behrman and Davey (2001) reported that 24% of identifications from live lineups in Sacramento, California, were identifications of fillers. Valentine, Pickering, and Darling (2003) analyzed 119 lineups in the greater London area and found that 21.6% of the

eyewitnesses identified fillers. In these four studies of actual eyewitnesses to serious crimes, filler identifications constituted approximately one third of all positive identifications. These archival results represent a very important complement to the experimental studies of eyewitnesses for several reasons. First, they indicate filler-identification results that are quite consistent with rates obtained in experiments (Ebbeson & Flowe, n.d.; Steblay, Dysart, Fulero, & Lindsay, 2001). Second, these archival results address a common criticism of experiments—namely, that participant witnesses in experiments are not as cautious as actual crime witnesses are, because the consequences of a mistaken identification in an experiment are not serious. But the witnesses in the archival studies were actual witnesses to crimes and yet mistakenly identified fillers in one third of their positive identifications. Third, the filler-identification rates in the archival studies permit us to make conservative estimates of the risk that an innocent suspect would face in these lineups. For example, with five fillers in each lineup (six-person lineup minus the suspect) and a 20% filler-identification rate, the risk to any given filler is 4%. If an innocent suspect has the same risk as a filler, the estimated risk to an innocent suspect is 4%.

These estimates of the risk to an innocent suspect are conservative for two reasons. First, lineups rarely yield equal distributions of error because the innocent suspect will commonly stand out for any number of reasons, including the selection of fillers that bear a poor resemblance to the description of the perpetrator given by the witness (Valentine & Heaton, 1999; Brigham, Meissner, & Wasserman, 1999). Second, when the actual perpetrator is not in the lineup (i.e., the suspect is innocent), the rates of filler identification increase (see Wells & Olson, 2002). Assuming that the perpetrator was present in a large proportion of the lineups in these archival studies, the filler-identification rates underestimate the expected error rate for any given lineup in which the perpetrator is absent.

Archival studies also permit analyses that examine results as a function of different levels of critical variables. For example, Wright and McDaid (1996) found that the filler-identification rate was 20.8% for violent crimes and 17.6% for nonviolent crimes. Valentine et al. (2003) found that the filler-identification rate was 15.9% when a weapon was present and 23.7% when there was no weapon. The latter result seems peculiar in light of the experimental results indicating a deleterious effect for the presence of a weapon (see meta-analysis by Steblay, 1992)—but in the weapons-effect section later in this monograph, we note that archival data are subject to “selection effects” that may offset or reinforce the effects of variables such as weapon focus.

Another interesting archival finding does not concern eyewitnesses per se but has a powerful bearing on expected rates of mistaken identification in the courtroom: Archival studies indicate that those charged with a crime enter a guilty plea in 80 to 90% of cases (Cole, 1986). Let us assume that 80% plead guilty

(the argument is stronger at 90%). We might assume that no mistakenly identified (innocent) suspects plead guilty and that all the guilty pleas are from guilty suspects. (In no sense do we intend for this assumption to be interpreted as a denial of the important work of Kassin & Gudjonsson, 2004, and other false-confession researchers, who have clearly made a compelling case that innocent people plead guilty.) Even if we presume that 10% of mistakenly identified suspects plead guilty, 90% of the innocent suspects and only 20% of the guilty suspects will go to trial. Assume further that a mere 4% of suspects identified from a lineup are innocent and 96% are guilty. If we assume that 80% of guilty suspects plead guilty and therefore do not go to trial, only 20% of the 96% (19.2% of the guilty) will go to trial, whereas 90% of the 4% (3.6% of the innocent suspects) will go to trial. Thus, at the trial level, 16% of the defendants (3.6% of the 22.8% going to trial) will be cases of mistaken identification. Charman and Wells (2006) called this the “pleading effect”; it illustrates how the mistaken-identification rate can be expected to be higher at the trial level than at the lineup level (see Fig. 1).

## ESTIMATOR VARIABLES

We first review estimator variables. Although these variables are not under the control of the justice system, they are important to our treatment for two main reasons. First, estimator variables are central to our understanding of when and why eyewitnesses are most likely to make errors. Informing police, prosecutors, judges, and juries about the conditions that can affect the accuracy of an eyewitness account is important. Second, our understanding of the importance of any given system variable is, at least at the extreme, dependent on levels of the estimator variables. Consider a case in which a victim eyewitness is abducted and held for 48 hours by an unmasked perpetrator; the witness has repeated viewings of the perpetrator, lighting is good, and so on. We have every reason to believe that this witness has a deep and lasting memory of the perpetrator's face. Then, within hours of being released, the eyewitness views a lineup. Under these conditions, we would not expect system variables to have much impact. For instance, a lineup that is biased against an innocent suspect is not likely to lead this eyewitness to choose the innocent person, because her memory is too strong to be influenced by lineup bias. On the other hand, when an eyewitness's memory is weaker, system variables have a stronger impact.

The effects on identification accuracy of a large number of estimator variables—witness, crime, and perpetrator characteristics—have been investigated by psychologists. Here we recount findings concerning several variables that have received significant research attention and achieved high levels of consensus among experts (based on items represented in a survey by Kassin, Tubbs, Hosch, & Memon, 2001) or have been the subject of interesting recent research.

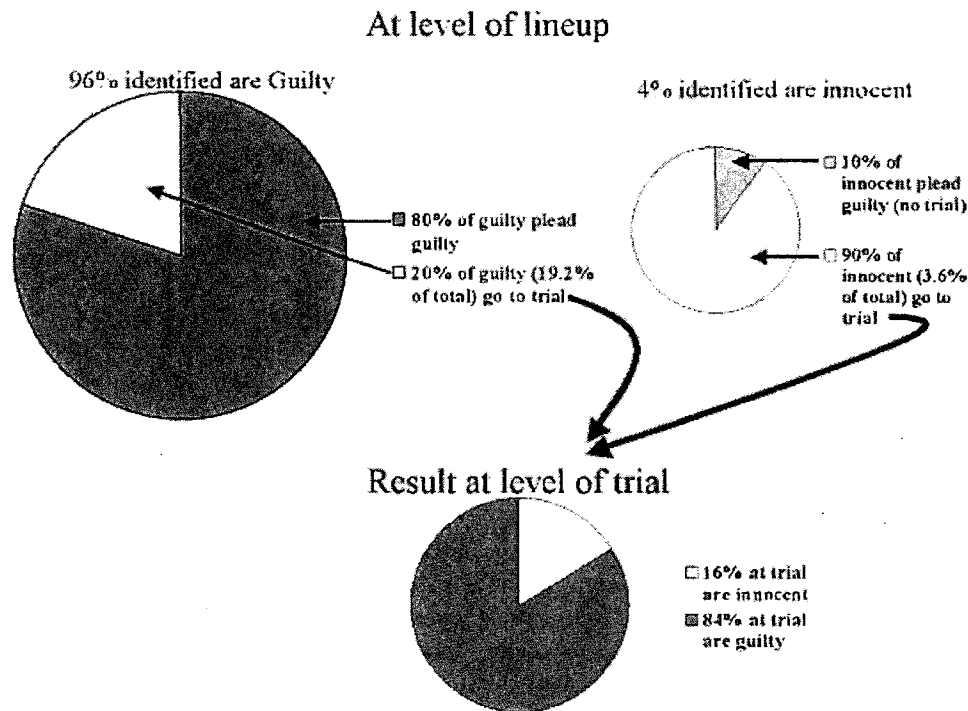


Fig. 1. The "pleading effect" (Charman & Wells, 2006). Assuming first that 96% of suspects identified from a lineup are guilty and 4% are innocent, if 80% of the guilty suspects and 10% of the innocent suspects plead guilty (thereby foregoing a trial), the result is that 16% of the defendants who go to trial will be innocent—that is, cases of mistaken identification.

### Cross-Race Identification

Meissner and Brigham (2001a) published the most recent broad review of research on the problems associated with what has sometimes been called other-race or cross-race identification impairment or own-race bias (ORB). Meissner and Brigham analyzed data from 39 research articles, with 91 independent samples involving nearly 5,000 participant witnesses. They examined measures of correct identification and false-alarm rates, as well as aggregate measures of discrimination accuracy and response criterion. They reported that the chance of a mistaken identification is 1.56 times greater in other-race than in same-race conditions and that the witnesses were 1.4 times more likely to correctly identify a previously viewed own-race face as they were to identify an other-race face. Participants were more than 2.2 times as likely to accurately categorize own-race faces as new versus previously viewed as they were to accurately categorize other-race faces. Meissner and Brigham explored the question of whether cross-race contact might reduce these effects and found that such contact played only a small role in ORB, accounting for just 2% of the variability across participants (see also Wright, Boyd, & Tredoux, 2003). They also found that the amount of viewing time available to witnesses significantly influenced ORB; specifically, false alarms to other-race faces increased when study time was limited.

Recent research by Pezdek, Blandon-Gitlin, and Moore (2003) examined cross-race impairment in kindergarten

children, third graders, and young adults who viewed black and white target faces and a day later were tested with a six-person lineup. These researchers observed the usual cross-race effect, which did not differ across age groups: In each age group, cross-race identification was less accurate than own-race identification.

### Stress

Despite the importance of knowledge about the effects of stress on witnesses, researchers cannot simulate violent crimes and pose a threat to the well-being of experimental subjects. Researchers have therefore resorted to a variety of manipulations to induce stress, including the use of violent versus nonviolent videotaped crimes. Increased violence in videotaped reenactments of crimes has been shown to lead to decrements in both identification accuracy and eyewitness recall (Clifford & Hollin, 1981; Clifford & Scott, 1978), but this finding is not universal (Cutler, Penrod, & Martens, 1987a).

Deffenbacher et al. (2004) recently published a meta-analysis of stress effect studies. The meta-analysis was conducted on 27 tests of the effects of heightened stress on identification accuracy and on 36 tests of its effect on recall of crime-related details. They found that high levels of stress negatively affected both types of memory. The effect of stress was notably larger for target-present than for target-absent lineups—that is, stress particularly reduced correct identification rates. The effect was also

**TABLE 1**  
*Percentages of Accurate and Mistaken Identifications From  
 Study of Eyewitness Identification Under High Versus Low Stress*

	High stress	Low stress
Correct identifications [target-present]		
Live lineup method	27	62
Photospread method	36	76
Sequential photo method	49	75
Mistaken identifications [target-absent]		
Live lineup method	45	50
Photospread method	48	61
Sequential photo method	0	0

Note. Source: Morgan et al. (2004).

considerably larger for eyewitness-identification studies that simulated eyewitness conditions (e.g., staged crimes) than for face-recognition studies.

These effects are well illustrated in a study by Morgan et al. (2004) that examined the eyewitness capabilities of more than 500 active-duty military personnel enrolled in a survival-school program (see Table 1). After 12 hours of confinement in a mock prisoner-of-war camp, participants experienced both a high-stress interrogation with real physical confrontation and a low-stress interrogation without physical confrontation. Both interrogations were 40 minutes long; they were conducted by different persons. A day after release from the camp, and having recovered from food and sleep deprivation, the participants viewed a 15-person live lineup, a 16-person photo spread, or a sequential presentation of photos of up to 16 persons. Regardless of the testing method, as Table 1 shows, memory accuracy for the high-stress interrogator was much lower overall than for the low-stress interrogator.

### Weapon Focus

*Weapon focus* refers to the visual attention eyewitnesses give to a perpetrator's weapon during the course of a crime. It is expected that the attention the eyewitness focuses on the weapon will reduce his or her ability to later recall details about the perpetrator or to recognize the perpetrator. Researchers have assessed eyewitness recall of various crime details in an attempt to establish the parameters of weapon-focus effects on perception and memory; these efforts were reviewed in a meta-analysis by Steblay (1992). The review included 19 studies with a total sample of 2,082 participants. The weapon-focus effect on identifications was statistically significant but reflected a modest impairment; the effect on description accuracy was larger. The analysis indicated that the weapon-focus effect was larger in target-absent lineups and when memory was generally impaired. Research by Mitchell, Livosky, and Mather (1998); Pickel (1998, 1999); and Shaw and Skolnick (1999) indicates that any surprising object can draw attention away from the perpetrator

and that novelty, rather than threat, may be the critical ingredient in the effect.

Researchers have tried to detect weapon-focus effects in field studies, and the results are somewhat conflicting. Tollestrup, Turtle, and Yuille (1994) examined the effect of weapon focus on the rate of suspect identification and obtained data consistent with laboratory findings. But Valentine et al. (2003) did not find a weapon-focus effect in their study of 640 attempts by eyewitnesses to identify the alleged target in 314 lineups. Of course, as noted earlier, in nonexperimental studies it is difficult to control for variables that might obscure a weapon-focus effect. For example, in the study by Valentine et al., the primary outcome variable is suspect choices rather than perpetrator choices (i.e., witness identifications are intended to determine whether suspects are perpetrators)—whereas in experimental research the identity of the perpetrator is known to the researcher.

Field research can also suffer from *selection effects* that can obscure the effects of variables of interest. For example, a true weapon-focus effect could be obscured if witnesses to crimes involving weapons believe that their memory is weak and are therefore less inclined to attend lineups. The result could be a reduction in the number of weapon-focus-impaired witnesses presented with lineups and thus a reduced number of cases of weapon focus.

As mentioned earlier, a selection effect might actually reduce our concern about the potential impact of weapon focus on eyewitness performance. On the other hand, it is conceivable that more intensive police investigations of weapon-present cases produce a higher proportion of perpetrator-present lineups for weapon-present witnesses, with the result that the apparent performance of weapon-present witnesses is improved even though their memories are impaired. If investigations of all crimes were similarly intense, a weapon-focus effect might emerge. One might also imagine that the police are more motivated to "help" weapon-present witnesses identify perpetrators who use weapons and who thus pose a threat to society. Such help might take the form of suggestive instructions to witnesses and suggestive lineups.

### Exposure Duration

Common sense tells us that the amount of time available for viewing a perpetrator is positively associated with the witness's ability to subsequently identify him or her. A meta-analysis by Shapiro and Penrod (1986) showed that the linear trend for exposure time was associated with improved performance. The effects of exposure time were illustrated in a study by Memon, Hope, and Bull (2003) in which mock witnesses viewed a realistic videotaped crime in which the target/perpetrator was visible for 12 versus 45 seconds. Witnesses were tested with target-present and target-absent arrays 40 minutes later. The proportion of correct identifications in target-present arrays and



correct rejections in target-absent arrays increased substantially when exposure time increased from 12 seconds to 45 seconds (from 32% to 90% for correct identifications and from 15% to 59% for correct rejections), although mistaken identifications in target-absent arrays remained high even with longer exposure (85% at 12 seconds and 41% at 45 seconds).

### Disguise

It is common for people to don disguises before engaging in criminal acts. Full-face masks, stockings, hats, and hoods can be quite effective in diminishing the facial-feature cues necessary for recognition (Cutler, Penrod, & Martens, 1987a, 1987b; McKelvie, 1988; Patterson & Baddeley, 1977). For example, Cutler et al. (1987b) had participants view a videotaped liquor store robbery and later attempt an identification from a videotaped lineup. In half of the robberies, the robber wore a knit pullover cap that covered his hair and hairline. In the other half, he did not wear a hat. The robber was less accurately identified when he was disguised: 45% of the participants identified the robber in the lineup test if he wore no hat during the robbery; only 27% identified him if he wore a hat during the robbery.

Shapiro and Penrod, in their 1986 meta-analysis, coded experiments for whether or not faces were changed between the initial viewing and recognition phases. Transformations included changes in facial hair and deliberate disguises, such as masks or hats. Nontransformed faces were more accurately recognized (effect size  $d = 1.05$ ; 75% vs. 54%) and less often falsely identified ( $d = .40$ ; 22% vs. 30%) than transformed faces were.

Not all disguises or changes in appearance work. Yarmey (2004) found similar levels of identification accuracy for a young woman viewed for 15 seconds in naturalistic circumstances, regardless of whether or not she wore a baseball cap and dark sunglasses. There was, however, an interaction involving disguise: Witnesses who were given enhanced retrieval instructions (involving mental rehearsal of the encounter) made significantly more correct rejections in the no-disguise condition than in the disguise condition.

### Retention Interval

Common sense tells us that memory declines over time. Can we expect eyewitness-identification accuracy to decline as the time between the crime and the identification test increases? Shapiro and Penrod (1986) included retention interval in their meta-analysis. When studies that manipulated retention interval were grouped into long versus short time delays (the exact manipulation depended on the study), longer delays led to fewer correct identifications ( $d = .43$ ; 51% vs. 61%) and more false identifications ( $d = .33$ ; 32% vs. 24%). Across all the studies examined in that meta-analysis (including those that did not directly manipulate retention interval), retention interval also proved an

important determinant of correct identifications ( $r = -.11$ ,  $p < .05$ ), although there was no significant relationship with false identifications.

### Witness Intoxication

Read, Yuille, and Tollestrup (1992, Experiment 1) tested identification accuracy one week after a staged event using a six-person lineup; they found that alcohol intoxication while witnessing the event was associated with a lower rate of correct identifications when the level of arousal (manipulated by varying the participants' perceptions of the probability of getting caught stealing an item from an office) was low during the event. False identification rates were the same for intoxicated and sober participants. Of course, after one week the participants were no longer intoxicated, which raises the question of what the effect of intoxication at viewing and identification would be.

Dysart, Lindsay, MacDonald, and Wicke (2002) note that the popular belief is that intoxicated witnesses are less accurate than sober witnesses. However, one theory concerning "alcohol myopia" (Steele & Josephs, 1990) predicts an interaction between blood-alcohol level and identification procedures in which witnesses who were intoxicated at encoding will be less accurate only in target-absent conditions. The theory suggests that, compared with intoxicated witnesses, sober witnesses will encode more information/cues about the perpetrator, which will facilitate correct rejections in target-absent procedures. Intoxicated witnesses are likely to encode only salient cues, and erroneous identifications will result where more subtle cues would have indicated that the suspect was not the target. On the other hand, using salient cues will be effective for intoxicated witnesses when the target is present.

Dysart et al. (2002) examined the effect of alcohol consumption on identification accuracy using "showups," a procedure in which the witness is shown the suspect alone, without any fillers. A showup is the identification procedure most likely to be used by police with intoxicated witnesses. As predicted, the researchers found that in the target-present showup condition, blood-alcohol level was not significantly related to correct identification; however, in the target-absent condition, higher blood-alcohol levels were associated with a higher likelihood (52%) of a false identification than were lower blood-alcohol levels (22%).

## SYSTEM VARIABLES

System variables (variables that can be controlled in actual cases) tend to center on factors that come into play after the witnessed event has passed. At that point, the legal system has some control over a number of important variables, but not necessarily all variables. For instance, first responders at a crime scene can separate eyewitnesses so they do not influence each other, but some interactions could have already occurred before the arrival of investigators. Similarly, although investi-

gators have total control over how a lineup is conducted, some identifications occur outside the control of the legal system—for example, when an eyewitness spontaneously identifies someone on the street as the perpetrator of an earlier crime.

System variables tend to be divided into two broad categories. One category is interviewing eyewitnesses, a process that generally involves recall memory. The other category is the identification of suspects, a process that generally involves recognition memory. It is important to note that neither interviewing nor identification is considered by eyewitness scientists to be purely a memory process. Social influence can be a huge factor in both.

The case of James Newsome, a man who served 15 years for a murder he did not commit, is an extreme example of an eyewitness making a positive identification from a lineup, even though his memory told him that the man he identified was not the man who committed the murder. After Newsome was proved innocent and the actual perpetrator was found through physical evidence, eyewitness Anthony Rounds came forward and described how Chicago police had forced him to identify Newsome from the lineup, even though he knew that Newsome was not the man he saw commit the murder. According to Rounds, the lineup administrators told Rounds whom to identify; when he resisted, their intimidating insistence led him to identify Newsome and give confident identification testimony at trial. A lawsuit in 2002 yielded strong evidence to support Rounds's claim, and a jury awarded damages to Newsome; the finding was upheld by the U.S. Seventh Circuit Court of Appeals (*Newsome v. McCabe et al.*, 2002).

Although this is an extreme example, it illustrates how extraneous external variables can influence eyewitness testimony without operating through memory mechanisms. Under other circumstances, social-influence variables are thought to actually influence memory. For instance, a misleading question such as "What kind of hat was the gunman wearing?" when the gunman had no hat could lead an eyewitness to develop a memory for a hat that did not exist. For these reasons, eyewitness scientists concern themselves with both social-influence variables and memory variables.

### Interviewing Eyewitnesses

Research on interviewing eyewitnesses dates back to the early 1900s. Alfred Binet (1900) was the first to study suggestibility in children in France, and William Stern (1904) initiated eyewitness research on interrogation in Germany. Snee and Lush (1941) wrote a short empirical article on the use of interrogatory versus narrative methods of interviewing eyewitnesses. Modern research on the issue undoubtedly owes much to the influence of Elizabeth Loftus, who used the method of asking questions of eyewitnesses to implant misleading information (e.g., Loftus & Palmer, 1974). This line of research paved the way for experimental studies of the effects of explicit and subtle forms of

misinformation imparted during questioning of adult and child witnesses (for reviews see Bruck & Ceci, 1999; Loftus, 2005; Wright & Loftus, 1998). This work led to important theoretical advances in our understanding of the mechanisms underlying eyewitness suggestibility in interviews. Examples include the source-monitoring framework (Lindsay & Johnson, 1989; Mitchell & Johnson, 2000; Poole & Lindsay, 2001); fuzzy-trace theory (Brainerd & Reyna, 1998; Memon, Hope, Bartlett, & Bull, 2002); an activation-based memory model (Ayers & Reder, 1998); retrieval-induced forgetting (MacLeod, 2002); the role of metacognition (Koriat, Goldsmith, & Pansky, 2000); and the social-influence approach (Echterhoff, Hirst, & Hussy, 2005; Gabbert, Memon, & Wright, in press; Zaragoza, Payment, Ackil, Drivdahl, & Beck, 2001).

In this monograph, we do not discuss the mechanisms responsible for distortions in information retrieved in eyewitness interviews. Instead, we use one example of a procedure that arose as a result of a direct request from the police to improve the probative value of eyewitness evidence. This example shows how researchers have attempted to wrap their knowledge about memory and social influence into a set of procedures for interviewing eyewitnesses. It is also the most developed and extensively researched procedural package for gathering detailed reports from cooperative eyewitnesses. (Readers who are interested in other approaches to interviewing eyewitnesses, including interviews designed to detect deception, should refer to reviews by Granhag & Stromwell, 2004; Memon & Bull, 1999; Poole & Lamb, 1998; and Vrij, 2000.)

### *The Cognitive Interview*

The cognitive interview (CI) was initially developed by the psychologists R. Edward Geiselman (University of California, Los Angeles) and Ronald P. Fisher (Florida International University) in the early 1980s (Geiselman et al., 1984; Geiselman, Fisher, MacKinnon, & Holland, 1985) and has resulted in more than two decades of research. Two main forces drove the development of the CI. The first was a request from police officers and legal professionals to improve the practices of police interviewers when gathering information from eyewitnesses. Analysis of the techniques used by untrained police officers in Florida (Fisher, Geiselman, & Raymond, 1987) suggested that there existed some fundamental problems in the conduct of interviews, leading to ineffective communication and poor memory performance. The "standard police interview" was characterized by constant interruptions, excessive use of a predetermined list of questions with an expectation that witnesses could provide answers, and questions that were timed inappropriately. For example, if the witness was describing one of the perpetrators, the officer might switch the line of questioning to the actions of another perpetrator. Interestingly, the same problems were identified in studies of the typical police interview in Britain (George, 1991) and Germany (Berresheim & Weber, 2003).

TABLE 2

*Revised Cognitive Interview Procedure*

## Step 1. Build rapport

## (a) Personalize the interview

Exchange names. Make sure the witness is comfortable and is willing to try to remember as much as possible. Ask the witness to give as many details as possible but not to guess or fabricate.

## (b) Transfer control to the witness

Tell the witness that you do not have knowledge of the event and it is the witness who holds all the relevant information. Let the witness choose the starting point for the narrative and give the account at his or her own speed and in his or her own words. Do not interrupt the witness, if at all possible. Listen actively to what he or she has to say. Allow for pauses.

## Step 2. Recreate the context of the original event and ask the witness to report in detail.

To reinstate context, invite the witness to close his or her eyes and place himself or herself back at the scene.

## Step 3. Open-ended narration

## (i) Request narrative description

Ask the witness to give a narrative account of the event in his or her own words. If clarification is required, use open-ended questions. Do not interrupt the narration to ask questions, although prompts such as "tell more" may be used. Avoid judgmental comments and closed (yes/no) questions.

## (ii) Focused retrieval

This is not a technique but a general guideline to follow to help the witness concentrate on what he or she is describing by

- using open-ended questions
- allowing for long pauses
- not interrupting the witness when he or she is speaking

## (iii) Extensive retrieval

Encourage the witness to search through his or her memory more extensively by asking him or her to report details from a number of different perspectives and in different chronological orders.

## (iv) Witness-compatible questioning

Time the questions appropriately so they are compatible with the witness's retrieval pattern rather than adhering to a protocol.

## Step 4. Closure

Be sure to leave time to brief the witness and let him or her know what might happen next. Exchange contact information and encourage the witness to get in touch if he or she remembers additional details.

Note. Adapted from Fisher and Geiselman (1992).

The CI in its present form represents the alliance of two fields of study: communication and cognition. The social-psychological concerns of managing a face-to-face interaction and communicating effectively with a witness were integrated with what psychologists knew about the way people remember things. The social aspects are embodied in what is referred to as a *structured interview*, which consists of a phased procedure (free report followed by open-ended questions) and incorporates techniques to facilitate communication. These techniques include rapport building, which is designed to increase the transfer of control from the interviewer to the witness, and the use of a questioning strategy guided by the witness's own free report rather than one that is based on a predefined protocol. The structured interview resembles the recommended procedure for conducting investigative interviews with witnesses and victims in many countries (see Poole & Lamb, 1998; Westcott, Davies, & Bull, 2002).

The original version of the CI was presented as a set of four specific cognitive techniques for improving eyewitness recall. Following a series of laboratory simulations and field research, the procedure was revised in 1992 (Fisher & Geiselman, 1992). The version of the CI that has subsequently evolved focuses heavily on communication techniques and social dynamics and is a procedure in which the cognitive and communication

components work in tandem. Here we will focus primarily on research and practice relating to the revised CI (also referred to in the literature as the "enhanced" CI). For a summary of the revised CI procedure, see Table 2.

The revised CI comprises several phases during which the interviewer engages with and establishes rapport with the witness, asks the witness to provide a narrative account of the witnessed event, and then probes with questions relating to the details the witness has provided. Throughout the process, the interviewer interrupts as little as possible, allows the witness to dictate the subject matter and sequence of questioning, and listens actively to what the witness has to say. One of the primary aims of the CI is to facilitate the exchange of information between the witness and interviewer through effective communication.

The first task of the interviewer is to build rapport with the witness. This rapport serves two functions. First it puts the witness at ease, minimizing the discomfort and distress sometimes associated with sharing an intimate or fearful experience with a stranger. Second, there is some evidence that building rapport with open-ended questions can increase the accuracy of a child witness's report (Roberts, Lamb, & Sternberg, 2004). An important component of rapport building in the revised CI is for

the interviewer to explicitly “transfer control” to the witness (see Table 2 for details).

The “cognitive” part of the CI relies on two theoretical principles. First, a retrieval cue is effective to the extent that there is an overlap between the encoded information and the retrieval cue. Reinstatement of the original encoding context increases the accessibility of stored information (Tulving & Thomson’s encoding specificity hypothesis, 1973). Second, multiple trace theory (Bower, 1967)—which proposes that memories are made up of networks of associations rather than discrete and unconnected incidents—states that a memory can be cued by several means and that information not accessible with one technique may be accessible with another.

Having established rapport with the witness, the interviewer instructs the witness to mentally reconstruct the physical and personal contexts that existed at the time of the crime. Interviewers can help witnesses by asking them to form an image or impression of the environmental aspects of the original scene (e.g., the location of objects in a room); to comment on any emotional reactions and feelings (e.g., surprise, anger) at the time; and to describe any sounds, smells, and physical conditions (e.g., hot, humid, smoky) that were present. Occasionally a witness can be taken back to the scene of the crime. Once the witness has mentally reconstructed the context, the interviewer asks him or her to provide a detailed account of the event (the free narrative). To extend retrieval, the witness is asked to report all details, including partial or incomplete memories. To minimize editing, Fisher and Geiselman (1992) advised interviewers to instruct witnesses to report everything that comes to mind, even if it is trivial or out of chronological order. In addition to facilitating the recall of additional information, this technique may yield information that can be valuable in piecing together details from different witnesses to the same crime. Roberts and Higham (2002) obtained ratings of the forensic relevance of details elicited with the CI by asking police officers and prosecutors to rate the relevance of each detail to a criminal investigation/court proceeding. At best, only 50% of the information the CI elicited was deemed relevant by forensic experts. Most of the correct, forensically relevant details appeared in the free-narrative account (cf. Memon, Wark, Bull, & Köhnken, 1997).

Once the witness has provided an open-ended account, the CI interviewer can probe for details using open-ended questions and, when appropriate, can ask follow-up questions to clarify what the witness has said. It is imperative that interviewers remind witnesses that if they are unsure of an answer to a question, they should say so and not guess. Appropriate sequencing of the interviewer’s questions (referred to as interviewee-compatible questioning) is critical. Each eyewitness will have a unique mental representation of the event, depending on the details or aspects of the event he or she attended to and the order in which events unfolded for him or her (Fisher & Schreiber, *in press*). The interviewer should be guided by the

interviewee’s pattern of recall rather than adhering to a rigid protocol or predetermined checklist. For example, if an interviewee is describing a suspect’s face, this indicates that the mental image of the perpetrator’s face is currently active and details about the face are accessible (Pecher, Zeelenberg, & Barsalou, 2003). At this point, the interviewer should ask questions relating to the suspect’s appearance and not switch to another topic, such as the suspect’s car.

In a CI, the witness is encouraged to focus or concentrate on mental images of the various parts of the event, such as the suspect’s face (Fisher & Geiselman, 1992). The interviewer exhausts the content of each image by asking the witness to form an image and then describe it in as much detail as possible. Bekerian and Dennett (1997) refer to this focus on specific features as “molecular imaging,” as compared to the general “molar” approach, which emphasizes reinstating environmental context. To effectively engage the interviewee in focused retrieval, the interviewer must speak slowly and clearly, pausing at appropriate points to allow the interviewee time to create an image and respond (Memon, 2006). Unfortunately, the use of imagery can produce increases in errors and increased use of inferences in eyewitnesses’ spoken reports (Bekerian & Dennett, 1997; for a discussion, see Stevenage & Memon, 1997).

Alternative retrieval cues can be used to access an event. For example, witnesses can be asked to recall an event in different temporal order or from different perspectives. Some researchers have found that witnesses can recall additional details if they deviate from the event script and describe the event from the end or the middle or if they describe its most memorable aspect (Fisher & Geiselman, 1992; Geiselman & Callot, 1990). However, in other studies, no additional details have surfaced when the witness recalls the event for a second time, in a different order (Memon, Wark, Bull, et al., 1997). One of the most controversial components of the original CI was that witnesses were asked to “recall” an event from the perspective of another witness or from another location at the scene. The instruction to change perspective typically does not yield additional details and can increase errors, particularly if witnesses do not understand what the interviewer wants them to do (Boon & Noon, 1994; Memon, Cronin, Eaves, & Bull, 1993). Fisher, Brennan, and McCauley (2002) suggest that changing perspectives could be potentially valuable for highly traumatized witnesses who might find it too stressful to describe the event from their own perspective. However, forensic investigators are uncomfortable with the instruction to change perspective, presumably because it could invite witnesses to speculate (Kebbell, Milne, & Wagstaff, 2001).

#### *Evaluation of the CI*

The CI has been examined in approximately 65 studies to date. A meta-analysis of 53 studies found a median increase of 34% in the amount of correct information generated in the CI as compared with a different interview model (Köhnken,

Milne, Memon, & Bull, 1999). There was also an increase in incorrect details; we will return to this later. With the exception of two field studies, all the studies have tested volunteer witnesses (typically college students) in the laboratory. Witnesses observe either a live event or a videotape of a simulated crime. After a short delay (typically hours or days), the witnesses participate in a face-to-face interview. The witnesses receive either the CI or a control interview. The control is either a standard police interview or a structured interview that incorporates the phased approach referred to earlier. The interviews are tape recorded, transcribed, and then scored for the number of correct and incorrect statements. The accuracy of the reported statements is high and comparable for both types of interview.

Günter Köhnken and his colleagues in Germany (Köhnken, Schimmossek, Aschermann, & Höfer, 1995; Köhnken, Thurer, & Zorberbier, 1994) were the first to demonstrate the superiority of the CI over the structured interview. In their studies, the structured-interview group received training in basic communication skills that was comparable in quality and length to the CI group's training. The training included instruction on rapport building and the use of various types of questioning. In the 1994 study, both interviewees and interviewers were non-psychology students with no prior experience in investigative interviewing. The to-be-remembered event was a videotape showing a blood donation. Participants were tested a week after viewing the videotape. Each interviewer conducted one interview ( $n = 30$ ). The CI significantly increased the amount of correctly recalled information over the structured interview without increasing the number of errors and confabulated (made-up) details. In a subsequent study with adult participants, a small increase in confabulated details was also noted (Köhnken et al., 1995).

Memon and colleagues (Memon, Wark, Holley, Bull, & Köhnken, 1997) directly examined whether the CI advantage was due to the use of the communication components of the revised CI (rapport building, transfer of control, and elements of the structured interview) or of the cognitive components (context reinstatement, imagery, reverse order, and reporting in detail). As in the Köhnken research, cognitive and structured interviewers received similar training, and each group was led to believe it was using the superior interview technique. A third group of interviewers served as the control and was not trained. Both trained groups elicited more correct information than the untrained group did. However, this was offset by the fact that they also produced a significantly higher number of errors and confabulations than the untrained group. These findings are important in themselves but also raise the question of what is an appropriate control group. The cognitive interviews produce more correct details than do interviews conducted by an untrained group of interviewers. However, a structured interview with some of the communication components of the CI built in can also yield increases in correct recall. The increase in errors that occasionally occurs could be somewhat problematic (for a discussion, see Memon & Stevenage, 1996; Memon, 2006).

Some have argued that the production of incorrect as well as correct information suggests that the CI may be affecting report criteria (Memon & Higham, 1999; Roberts & Higham, 2002). Others argue that there is no suggestion that witnesses should lower their output criteria to produce unsure responses and interviewers should instruct witnesses not to guess or fabricate details (Fisher et al., 2002). It is important to note that accuracy rates typically do not differ between the CI and comparison groups.

The efficacy of the CI with nonstandard populations—notably, young children, the elderly, and people who are intellectually impaired—has also been examined. Given that the primary aim of the CI is to increase the amount of information retrieved, it may be the most effective procedure to use with young children, because children tend not to provide as much information as adults do. The results are somewhat mixed. The CI has been found to increase the amount of correct information recalled by children aged 7 to 11 years when the comparison group was a standard (untrained) group (Saywitz, Geiselman, & Bornstein, 1992). When the comparison is a structured interview, the CI increases correct information but can also increase errors in 8- to 9-year-olds (Memon, Wark, Bull, et al., 1997; Milne, Bull, Memon, & Köhnken, 1995).

More recently, Akehurst, Milne, and Köhnken (2003) examined whether the revised CI would aid the recall of children aged 8 to 9 years and 11 to 12 years after a 6-day delay. Children viewed a video of a shoplifting and were interviewed 4 hours or 6 days later. The CI led to an increase in correct recall as compared with a structured interview, with no increase in errors. There were no interactions involving age group or delay. As to the suitability of the CI for younger children, Holliday (2003a) reported that a modified version of the revised CI could increase the amount of correct information recalled in the narrative (free-recall) phase of the interview in 4- to 5-year-olds as compared with a structured interview. In a later study with 4- and 8-year-olds, Holliday (2003b) found that a CI given after postevent misinformation reduced children's reporting of misinformation in the interview (for a similar finding with 8- to 9-year-olds, see Memon, Wark, Bull, et al., 1997).

There is some evidence to suggest the CI can aid the recall of adults (Milne, Clare, & Bull, 1999) and children (Milne & Bull, 2006) with mild learning disabilities, although further research is required with this population, using larger sample sizes and people with a broader range of learning difficulties.

To date, there have only been two published studies of the efficacy of the CI when the witnesses are older adults. Mello and Fisher (1996) found the CI led to similar increases in correct recall when the participants were older adults (mean age = 72 years) but Searcy, Bartlett, Swanson, and Memon (2001) found no differences in correct identification (recognition) of a target when witnesses aged 62–79 years were interviewed using a procedure resembling the CI.

The failure to find an effect of CI on recognition (in this case, identification of a target) is consistent with earlier studies. In four separate studies, Fisher, Quigley, Brock, Chin, and Cutler (1990) found no advantage of the CI in recognition, but it did elicit better descriptions of the target as compared with a no-instruction control. Gwyer and Clifford (1997) compared the revised version of the CI with a structured interview and again found no reliable effects on recognition performance in target-present conditions but a reduction in false identifications in target-absent conditions in their short (48-hour) delay group (cf. Yarmey, 2004). This finding did not generalize to the long (96-hour) delay group.

These findings come as no surprise. The literature indicates that environmental manipulations of context are not effective in a recognition test when alternative cues are available. According to Smith and Vela (2001), this is because the influence of contextual cues will be reduced or will be outshone when there are strong retrieval cues present at the time of the memory test. This is referred to as the outshining hypothesis. For instance, in a recognition test in which a copy of the item to be remembered is provided, this item serves as a retrieval cue, and contextual cues are rendered ineffective. When the task is to recall an item of information in the absence of a specific retrieval cue, the reinstatement of context should guide memory (Smith, 1994). However, as pointed out by Fisher and Schreiber (in press), the outshining hypothesis leads to the prediction that experimental manipulations should have smaller effects in target-present than in target-absent conditions.

Future studies should examine whether witnesses interviewed with the revised CI are more likely to make correct rejections and whether the effect of a CI in an identification situation will vary as a function of retention interval (Gwyer & Clifford, 1997) and other relevant system and estimator variables.

#### *Application/Training*

Police officers complain that eyewitnesses seldom provide sufficient information (Kebbell & Milne, 1998). The CI has proved to be a prime system variable in that a full and accurate eyewitness statement may determine whether or not a case is solved. The question is, what impact has the CI had on interviewing practice?

Despite the extensive scientific research on the CI, knowledge and application of it is not widespread among investigators in the United States, and it does not appear to have had a substantial impact on the methods police officers use to interview witnesses (Fisher & Schreiber, in press). Nevertheless, personnel from police and nonpolice organizations have received training in the technique. These organizations include the FBI; the National Transportation Safety Board; the Department of Homeland Security; the Federal Department of Law Enforcement; and the Bureau of Alcohol, Tobacco, and Firearms. NASA personnel will receive such training in the near future. The training has varied across states and differs between federal and state training

academies. Fisher and Schreiber (in press) note that federal investigators receive 18 hours of training in interviewing, including techniques for interrogating suspects and nonpsychological topics such as the legal aspects of interviewing.

In England and Wales, the CI was introduced in a booklet to every police officer as part of the national investigative interviewing package in 1992. However, while Britain has some good examples of police training in the CI, with input to the trainers from researchers, the training is typically limited to the detective ranks or is only provided in a minimal, introductory form to junior officers (see Milne & Bull, 2006). A survey of police officers (Kebbell, Milne, & Wagstaff, 1999) suggested that relatively few officers used the full CI in practice. Training programs have also been developed in other European countries, as well as in Australia, New Zealand, and Israel (Fisher, 2005). The efficacy of the CI has also recently been demonstrated in Brazil (Stein & Memon, in press), with the aim of introducing it to the Brazilian police and judiciary in the near future.

Given the extensive research on the CI and the light it has shed on faulty interviewing practices, have police interviews improved in the 20 years since the CI was first introduced? In a recent analysis of police interview techniques, Fisher and Schreiber (in press) asked 23 Miami detectives experienced in investigations of robbery, sexual assault, homicide, and internal affairs to tape record their witness interviews. Analysis of these interviews revealed techniques and behaviors similar to those identified 20 years earlier. This was particularly disappointing in view of the scientific progress made in the field and the efforts by Fisher and Geiselman to disseminate their findings to practitioners and to implement training programs.

The picture is just as bleak across the Atlantic. Clarke and Milne (2001) conducted a national evaluation of investigative interviewing training (the Planning, Engage, Account, Closure, Evaluation—or PEACE—model) in England and Wales to see if it had improved workplace practice. The PEACE model provides two ways of obtaining an interviewee's account: the CI and conversation management. The latter involves asking witnesses to give their own account of events; the interviewer then selects specific topics from the account and questions the witnesses in a logical sequence. Clarke and Milne (2001) found little evidence of any cognitive interviewing taking place. Most officers seem preoccupied with getting a statement from the witness and asking closed questions. One reason for the lack of development in witness-interviewing skills is that resources have targeted the use of interrogative techniques or suspect interviews at the expense of gathering information from cooperative witnesses (Milne & Bull, 2006).

Resources need to be directed toward training in witness-interviewing practices. Milne and Bull (2006) argue that this will involve procedural changes in collecting evidence in the United Kingdom, such as electronic recording of all witness interviews to maintain an accurate record of the original ac-

count, assessment of training and supervision of witness, and victim interviews to ensure that appropriate techniques are used. With respect to the United States, R.P. Fisher (personal communication, March 28, 2006) has noted that nonpolice groups, such as engineers, have displayed a willingness to use CI in investigations, suggesting that perhaps those with an academic background or a motivation to use investigative techniques to arrive at solutions find it easier to understand the theory behind the CI. Following this line of reasoning, perhaps police officers with specialist skills (homicide, child protection) might benefit more from training in the CI. However, those who are specialists may already have an established protocol for interviewing and thus be less willing to adopt new techniques (Memon, Milne, Holley, Bull, & Köhnken, 1994).

We advocate a two-tiered approach to training. First, there is a need for more extensive training programs on witness-interviewing techniques for new police officers. Training and examples of how faulty witness testimony can contribute to miscarriages of justice might also prove fruitful (see Savage & Milne, in press). The monitoring and assessment of witness interviews (e.g., recording) is essential. A second approach is to present trainees with a simpler, more accessible version of the cognitive interview (e.g., Davis, McMahon, & Greenwood, 2004) to encourage wider use.

### Identifying Criminal Suspects

The identification of a criminal suspect can be the most important eyewitness evidence that is presented at a trial. This is especially true when the eyewitness claims to have seen the suspect commit the criminal act. In that case, the eyewitness-identification testimony is direct evidence of guilt in the sense that the accuracy of the identification has a one-to-one relationship to the ultimate issue of whether the suspect committed the crime. In other situations, eyewitness identification evidence may be circumstantial—for instance, if the eyewitness only saw the person in the vicinity of the crime or saw the person leaving a building at a certain time. In these cases, other types of evidence are needed to complete the inference that the person who was seen is the same person as the one who committed the crime. Regardless of whether the identification is direct or circumstantial, those who observe identification testimony (for example, jurors) are likely to accept it as accurate if the eyewitness is confident and consistent (e.g., Berman & Cutler, 1996; Bradfield & Wells, 2000; Brigham & Bothwell, 1983; Cutler, Penrod, & Stuve, 1988; Lindsay, Lim, Miranda, & Cully, 1986; Lindsay, Wells, & O'Connor, 1989; Lindsay, Wells, & Rumpel, 1981; Maas, Brigham, & West, 1985; Wells & Leippe, 1981; Wells, Lindsay, & Ferguson, 1979).

### Lineups

A primary method for obtaining identifications of criminal suspects is the use of the lineup. Lineups can be either live, as commonly seen on TV shows, or photographic. In the experience

of the first and third authors, most lineups in the United States are conducted using photographs. At its simplest level, a lineup involves placing a suspect among distracters (called fillers) and asking the eyewitness if he or she can identify the target. The lineup is more complex than it at first appears. Understanding how mistaken identifications can occur with lineups and what kinds of system improvements can be made to prevent mistakes requires an understanding of the structural properties of lineups and their possible outcome distributions.

*Lineup Structure.* Regardless of whether there is more than one culprit, or target, a lineup should contain only one suspect, with the remaining members being known-innocent fillers (Wells & Turtle, 1986). It is critical to keep in mind that the suspect might or might not be the target (i.e., might or might not be the actual culprit). Hence, we will refer to two possible states of truth: (a) the suspect is the target, and (b) the suspect is not the target. Because there is only one suspect per lineup, these two states of truth are equivalent to target-present and target-absent lineups. In a target-present lineup, two kinds of errors can be made: (a) an incorrect rejection (making no identification), and (b) the identification of a filler. Note that one cannot mistakenly identify an innocent suspect in a target-present lineup. The only time an eyewitness can mistakenly identify an innocent suspect is in a target-absent lineup. Target-absent lineups can also result in filler-identification errors, but these errors would not result in charges being brought against an innocent person. We reserve the term “mistaken identification” to refer to the identification of an innocent suspect; the identification of anyone other than the suspect is called filler identification. Thus, the structural properties of a lineup produce the set of possible outcomes shown in Table 3. In an experiment, participant witnesses are shown either a target-present or target-absent lineup to simulate the real-world fact of an unknown probability that the police are focusing on an innocent suspect. The proportion of target-present and target-absent lineups (the target-present base rate) is commonly 50/50 for experiments, but Bayesian statistics permit quantitative analyses of what happens across all possible base rates for any given experiment (see Wells & Lindsay, 1980; Wells & Olson, 2002; Wells & Turtle, 1986).

*Typical Outcome Distributions.* As would be expected from better-than-chance performance, experiments typically show that accurate identifications are more likely than inaccurate identifications and that true rejections are more likely than are false rejections (Clark, 2003; Wells & Lindsay, 1980; Wells & Olson, 2002). Notice, however, that there are two types of filler identifications. Filler identification Type 2 is a “miss” in the sense that the target was present and could have been chosen but the eyewitness picked someone else. Filler identification Type 1 is an accurate rejection in the sense that the suspect is innocent and the eyewitness did not pick him or her. In general, experiments show that Type 2 filler identifications are more likely than

**TABLE 3**  
*Possible Outcomes From a Lineup*

State of truth	Response of Eyewitness		
	Identification of suspect	Identification of filler	No identification
Suspect not target	Accurate identification	Filler identification type 1	False rejection
Suspect is target	Mistaken identification	Filler identification type 2	True rejection

**Note.** Filler identification type 1 can be construed as an accurate rejection in the sense that the target was not present and the eyewitness did not pick him or her. Filler identification type 2 is a “miss” in the sense that the target was present but was not picked. Source: Charman & Wells (2006).

are Type 1 filler identifications (Wells & Olson, 2002). This makes sense and fits well with the concept of relative judgments (Wells, 1984), in which it is presumed that eyewitnesses tend to select the person who looks most like the target. When the target is absent, the chances increase that one of the fillers will be perceived as looking like the target. Usually, eyewitness-identification performance is calculated by the extent to which accurate identifications exceed mistaken identifications and true rejections exceed false rejections. However, the rate of mistaken identifications can be decreased without increasing correct rejections by shifting identifications to fillers in the target-absent lineup. This is a key to understanding how careful selection of fillers for lineups can reduce mistaken identifications even if it does not reduce the propensity of eyewitnesses to attempt identifications from target-absent lineups.

*Target Removal Without Replacement.* The relative-judgment conceptualization (Wells, 1984) has permeated the literature on lineups. It simply states that eyewitnesses have a tendency to identify a person from the lineup who looks most like their memory of the target relative to the other lineup members. As long as the actual target is in the lineup, the relative-judgment process should work well. However, if the actual target is not in the lineup, problems ensue, because there will always be someone who looks more like the target than the other lineup members. Various results have been interpreted as supporting the relative-judgment conceptualization, but the removal-without-replacement (RWR) effect is the best evidence in support of the relative-judgment conceptualization.

In the original demonstration of the RWR effect (Wells, 1993), eyewitnesses viewed either a six-person lineup that contained the target or a five-person lineup in which the target was removed and not replaced with anyone. In both conditions, the eyewitnesses were instructed that the target might not be present (see following section on pre-lineup instructions). When the target was present, 54% picked the target, 21% selected no one, and 25% selected fillers. Wells reasoned that if the 54% represented true recognition rather than a relative judgment, removal of the target should result in the 54% joining the 21% in picking no one. When the target was removed, however, only 32% selected no one, and 68% selected fillers. Thus, among the 54% selecting the target when the target was present, it is es-

timated that 79.6% of them (43%/54%) would have selected one of the fillers in the absence of the target. Recent data show the RWR effect to be robust across a variety of conditions, and the magnitude of the effect appears to be greater when memory is weaker (Clark & Davey, 2005; MacLin, Wells, & Phelan, 2004). There remains some debate about the psychological processes underlying the RWR effect. Ebbesen and Flowe (n.d.), for instance, suggest that it could simply represent a downward criterion shift that occurs when the target is removed. Regardless of the interpretation, the RWR effect illustrates the substantial risk that accrues to an innocent suspect when the actual target is not present.

The effect also further illuminates the problem of filler selections that we noted earlier in the discussion of archival studies using police files, in which one third of positive identifications by witnesses were identifications of innocent fillers. In the American archival study, Behrman and Davey (2001) found that nearly a quarter of witnesses selected a filler (and 50% selected the suspect). Thus, the average filler was selected by 5% of witnesses—what might be termed “bad guesses” (at least in the sense that witnesses’ memories were not good enough to avoid errors; Penrod, 2003). Of course, in a perfectly fair array, one would have to assume that at least another 5% of witnesses would “guess” the suspect. These selections might be characterized in various ways: Steblay et al. (2001) called them “calculated guesses” and Penrod called them “lucky guesses.”

As we discuss later, there are reasons to believe that many lineups are not fair and that calculated/lucky guesses produce many suspect identifications that look like “hits” but are really the product of biased arrays and witness guessing. Steblay et al. (2001) reported, for instance, that in studies of target-absent simultaneous arrays in which a filler similar to the suspect was designated the “innocent suspect,” that person was picked by 27% of witnesses (across all studies, one of the six fillers—including the suspect—was picked by 51% of witnesses). One might expect that in a fair lineup the innocent filler would be selected by 8.5% (51%/6) of witnesses instead of 27%. The much higher rate of suspect identification suggests that the witnesses had some memory for the appearance of the missing target but not enough of a memory to avoid mistakenly identifying an innocent person.



*Pre-Lineup Instructions.* One of the first and most fundamental lineup system variables to be tested empirically was the instruction (or warning) to eyewitnesses that the target might or might not be in the lineup. Malpass and Devine (1981) used both target-absent lineups and target-present lineups; they either gave the pre-lineup instruction that the target might or might not be present or gave no instruction. When participants viewed a target-present lineup, the instruction had little effect on the distribution of responses. When they viewed a target-absent lineup, however, the instruction reduced choosing rates dramatically. This general pattern, in which the instruction reduces the chances of both mistaken identifications and filler identifications, has been replicated extensively (see meta-analysis by Steblay, 1997). A more recent meta-analysis indicates that accurate identification rates in target-present lineups might be slightly harmed by the instruction, but the decline in accurate identifications when the target is present is much smaller than the decline in mistaken identifications when the target is absent (Clark, 2005).

*Selection of Fillers.* The characteristics of the fillers used in a lineup have a strong influence on the chances that an innocent suspect will be identified in a target-absent lineup. In general, if the innocent suspect fits the description of the target and the fillers do not, the innocent suspect is likely to be mistakenly identified. The first empirical demonstration by Lindsay and Wells (1980) was followed by a debate about the optimal criteria for selecting fillers. Two primary strategies for selecting fillers have been advocated. One is to select fillers who resemble the suspect. Luus and Wells (1991) argued against this strategy because it has no “stopping point” and also because it risks creating a lineup of clones, which would reduce accurate identification rates for target-present lineups. Wells, Rydell, and Seelau (1993) found that selecting fillers on the basis of the description given by the eyewitnesses managed to protect the innocent suspect in target-absent lineups without harming accurate identification rates in target-present lineups. On the other hand, selecting fillers on the basis of their resemblance to the suspect harmed hit rates with no additional protection for the innocent suspect in target-absent lineups.

Wogalter, Marwitz, and Leonard (1992) presented another argument against selecting fillers on the basis of their resemblance to the suspect: The “backfire effect” refers to the idea that, somewhat ironically, the suspect might stand out if he or she was the basis for selecting the fillers in the lineup, because the suspect represents the central tendency or origin of the lineup. Clark and Tunnicliff (2001) reported evidence for the backfire effect. However, eyewitnesses’ descriptions of the target are often sparse and sometimes do not even match the characteristics of the suspect (Lindsay, Martin, & Webber, 1994; Meissner, Sporer, & Schooler, in press; Sporer, 1996, in press). The general recommendation for selecting fillers for lineups has

been to use the eyewitness’s description of the target and to take any additional measures needed to make sure that the suspect does not stand out in the lineup (Wells et al., 1998).

Along with these strategies for selecting fillers, various techniques to assess lineup fairness by using “mock witnesses” have been developed. The task of a mock witness is to examine the lineup and try to discern which person is the suspect. From this mock-witness paradigm, various metrics have been developed to assess the extent to which the suspect stands out unfairly (Malpass & Lindsay, 1999). In lab studies, the mock-witness paradigm appears to be sensitive to lineup bias and is relatively robust across variations in lineup procedure (e.g., simultaneous vs. sequential procedures; see McQuiston & Malpass, 2002). Studies of photo arrays and lineups from actual cases using the mock-witness method reveal that arrays are frequently biased against suspects, who are picked more than twice as often (relative to the fillers) as one would expect by chance alone (Brigham et al., 1999; Valentine & Heaton, 1999; Wells & Bradfield, 1999b).

*Lineup Size.* A common practice in the United States is to use five or six persons (a suspect plus four or five fillers) in a live lineup and six or eight photos in a photo lineup. For purposes of this discussion of lineup size, we will assume that each lineup member is viable in the sense that the fillers are selected to fit the description and in other ways do not make the suspect stand out. Given a set of properly selected lineup fillers, there is no reason to believe that an innocent suspect has a greater chance than any of the fillers to be identified by an eyewitness. Hence, eyewitness researchers have adopted the assumption that the chances of a mistaken identification are  $(1/N) \times p(I)$ , where  $N$  is the number of lineup members and  $p(I)$  is the probability that an eyewitness will make an identification (see Doob & Kirshenbaum, 1973; Wells, Leippe, & Ostrom, 1979). Note that increasing lineup size reduces the chances of a mistaken identification in a negatively decelerating fashion (i.e., each additional lineup member reduces the chances of a mistaken identification less than the previous addition did). Because of this negative deceleration, the addition of persons to the lineup brings diminishing returns. Thus, adding six additional members to a six-person lineup reduces the chances of mistaken identification from 16.7% to 8.3% (i.e., among those making an identification). But, adding six members to a 12-person lineup reduces the chances of mistaken identification from 8.3% to 5.5%.

If reducing the chances of a mistaken identification were the only consideration, increasing the size of the lineup to a very high number is a good idea, even with diminishing returns. But the formula speaks only to mistaken identifications from target-absent lineups and not to the chances of accurate identifications from target-present lineups. The idea of a system variable improvement for lineups is to reduce the chances of a mistaken identification without harming the chances of an accurate

identification. Thus, the critical question is what happens to accurate identifications as a function of increasing lineup size? The eyewitness-identification literature has not derived a precise function relating lineup size to accurate-identification rates. Levi (2002) reported no drop in accurate-identification rates when lineup sizes were increased from 10 to 40 persons. In fact, the literature includes reports of eyewitnesses being able to view up to about 300 photos with little reduction in the chances of an accurate identification (Ellis, Shepherd, Flin, Shepherd, & Davies, 1989; Lindsay, Nosworthy, Martin & Martynuck, 1994). These results are consistent with the general observation that identifications of the target from target-present lineups are not as sensitive to lineup variations as mistaken identifications from target-absent lineups are (Charman & Wells, 2006). For example, the "might or might not be present" instructions have little effect on accurate identifications from target-present lineups but appreciably reduce identifications from target-absent lineups (Stebly, 1997). Similarly, the use of a filler-biased lineup has little effect on accurate identifications from target-present lineups but increases mistaken identifications from target-absent lineups (Wells, Rydell, & Seelau, 1993). Also, suggestive influences from lineup administrators appear to have little effect when eyewitnesses view a target-present lineup but have a strong effect when the eyewitnesses view a target-absent lineup (Haw & Fisher, 2004). More systematic research is needed before it will be possible to conclude that lineup sizes can easily be raised to 20 or more persons without harming accurate identification rates, but there appears to be great promise in the simple idea of increasing the nominal size of lineups.

*Double-Blind Lineups.* Police conducting a lineup has been likened to psychologists conducting an experiment (Wells & Luus, 1990). One element of this rich analogy is the idea of the double-blind lineup (Wells, 1988). Normally, a lineup is conducted by the case detective, who also assembled the lineup and knows which person is the suspect and which people are merely fillers. The psychological literature on experimenter-expectancy effects reveals the dangers of permitting a person who knows the correct, desired, or expected answer to administer a face-to-face test (Harris & Rosenthal, 1985), and yet this is standard practice for lineups. Experiments have shown that when the lineup administrator is led to believe that a particular lineup member (randomly selected) is the suspect, the chances that the eyewitness will identify that person are increased (Haw & Fisher, 2004; Phillips, McAuliff, Kovera, & Cutler, 1999). Furthermore, when the eyewitness selects the person whom the lineup administrator was led to believe is the target, the eyewitness expresses higher levels of confidence in the identification (Garrioch & Brimacombe, 2001).

The idea of the double-blind lineup is straightforward: The person who administers the lineup should not be aware of which lineup member is the suspect and which members are fillers

(Wells et al., 1998). This recommendation does not presume any intention or awareness on the part of the lineup administrator to influence the eyewitness. Some police jurisdictions might be concerned about manpower issues involved in using an independent lineup administrator. Because most lineups in the United States are actually photo spreads of some sort rather than live lineups, an alternative to using a double-blind administrator is to have a laptop computer administer the lineup, thereby effectively eliminating any possible influence from the lineup administrator (for a description of such a program, see MacLin, Zimmerman, & Malpass, 2005).

*Sequential Lineups.* An alternative to the traditional police lineup, the sequential lineup, was introduced in the mid-1980s (Lindsay & Wells, 1985). Unlike the traditional police lineup, in which all members are presented to the eyewitness at once (simultaneous lineup), the sequential lineup presents the lineup members to the eyewitness one at a time. The eyewitness is told that he or she will view a number of people—the number is not specified. The witness makes a decision on each lineup member (yes, no, or not sure) before the next lineup member appears. The theory behind the sequential lineup is that it prevents eyewitnesses from relying on relative judgments, in which one lineup member is compared with another and the one most similar to the target is picked. Although the eyewitness can compare the lineup member currently being viewed with those already seen, there is a chance that a lineup member yet to come might look even more similar to the target. The initial results indicated support for a sequential-superiority effect in which identifications from target-absent lineups diminished while identifications of the target from target-present lineups remained largely the same.

Years of additional experiments culminated in a meta-analysis that aggregated data across 4,145 participant witnesses (Stebly et al., 2001). The meta-analysis supported the original observation of lower mistaken identification rates for the sequential than for the simultaneous lineup; however, there was also a reduction in accurate identifications of the target from the target-present lineups. In general, the sequential procedure appears to result in fewer identification attempts overall compared with the simultaneous procedure. Although the sequential procedure reduced mistaken identifications at a greater rate than it did accurate identifications, this shift in performance is consistent with a criterion shift in which eyewitnesses set a higher criterion for identification with the sequential than with the simultaneous procedure (Meissner, Tredoux, Parker, & MacLin, 2005). However, these results are also consistent with a shift away from relative judgments.

Recall that the RWR effect indicates that some proportion of accurate identifications appears to result from relative judgments rather than true recognition. Thus, a shift away from relative judgments is likely to result in fewer accurate identifications as well as fewer mistaken identifications. An argument

can be made that a more conservative lineup test (whether owing to a higher criterion for making a positive identification or to a reduced reliance on relative judgments) is desirable, as mistaken identification is the primary cause of convictions of the innocent. The trade-off of accurate and mistaken identifications ultimately is a decision for policymakers, not scientists. However, Steblay et al. (2001) and Penrod (2003) argue that any losses of accurate identifications that result from reduced reliance on relative judgments are merely reductions in lucky or calculated guesses.

A recent field experiment involving actual lineups conducted in Illinois (Illinois Pilot Program, 2006) has been touted as a comparison of the sequential lineup and the traditional simultaneous lineup. The authors' report on the experiment interprets its results as indicating that the traditional simultaneous lineups yielded fewer filler identifications and more suspect identifications than did the sequential lineups. In fact, however, this two-condition experiment actually confounded several variables. Perhaps the most important confound was that the simultaneous lineups were never conducted using double-blind procedures but were always conducted by the case detectives. The sequential lineups, in contrast, were always conducted using the double-blind method. Thus, the low filler rate obtained in the simultaneous lineups could have been the result of not using double-blind procedures. Consistent with this concern, it should be noted that the double-blind sequential-lineup data in the Illinois Pilot Program conformed quite well with data obtained using the double-blind sequential procedure in the Hennepin County (Minnesota) pilot project (about 8% filler identification rates; see Klobuchar, Steblay, & Caligiuri, *in press*). In contrast, the very low filler rate reported in the Illinois Pilot Program using the nonblind simultaneous procedure (about 3%) is an extreme outlier from the approximately 20% rate found in other jurisdictions with simultaneous lineups (see Behrman & Davey, 2001; Slater, 1994; Valentine et al., 2003; Wright & McDaid, 1996). The profoundly low filler-identification rate for simultaneous lineups reported in the Illinois Pilot Program suggests a suppression of filler identifications and/or a reluctance to report filler identifications by the nonblind lineup administrators. Thus, we are reluctant at this time to consider the Illinois Pilot Program to be an interpretable test of the simultaneous versus sequential procedure.

### *Composites*

When there is no clear suspect, investigators sometimes resort to the use of sketch artists or composite faces. Little systematic research on sketch artists exists, in part because variance across artists (e.g., in their abilities) is presumed to be significant and a fairly large sample would be required to reach generalizable conclusions. Considerable research exists, however, on composite production systems, which are increasingly being used by crime investigators in place of sketch artists. Composite production systems create faces by selecting features (e.g., nose,

eyes, chin, head shape, hair, mouth, brows, ears) and combining them into a face. One of the original systems, *Identi-Kit*, used line drawings of facial features on transparencies. An accompanying booklet displayed all the possible features, and the eyewitness selected features that were then overlaid on each other to form a complete face. A later system, *Photo-Fit*, used the same system, except that the features were black-and-white photos of actual facial features instead of line drawings.

In recent years, computer software programs have replaced transparency-based composite systems. Examples of such software are *E-Fit*, *Evo-FIT*, *CD-Fit*, and *Mac a Mug* (Frowd et al., 2005). The *FACES* program is currently popular among U.S. law enforcement agencies (Cote, 1998). *FACES* includes 361 hair selections, 63 head shapes, 42 forehead lines, 410 sets of eyebrows, 514 sets of eyes, 593 noses, 561 sets of lips, 416 jaw shapes, 145 moustaches, 152 beards, 33 goatees, 127 sets of eyeglasses, 70 eye lines, 147 smile lines, 50 mouth lines, and 40 chin lines. In each feature category, a selection button permits the user to view subsets of the feature that meet a particular description. For instance, eyes are divided into the subsets narrow, deep set, overhanging lids, heavy lids, average blue or green, almond-shaped blue or green, average brown, almond-shaped brown, and bulging. Noses are divided into the subsets of narrow, average with round base, average with broad base, average pointed, hooked nostrils not showing, hooked nostrils showing, slightly flared nostrils, very flared nostrils, round (bulbous), average large, wide base with nostrils showing, and wide base with nostrils not showing. In addition, controls permit the features to be moved up or down and closer or farther apart, and to be made larger or smaller. The features are displayed on one side of the computer screen, and the face is built on the other side. When a feature is clicked, it appears on the face. To make changes—for example, in the eyes—one simply clicks a different set of eyes, and those on the face are replaced with the new ones.

All composite systems use a part-to-whole method to build the face: The eyewitness constructs a face by selecting features and assembling them. Numerous face-recognition researchers have noted that this method may conflict with the natural way faces are encoded in memory—namely, in a holistic manner (e.g., Tanaka & Farah, 1993; Tanaka & Sengco, 1997; Wells & Hryciw, 1984). Research experiments generally indicate that composite faces tend to be rather poor likenesses of the original faces (e.g., Bruce, Ness, Hancock, Newman, & Rarity, 2002; Ellis, Davies, & Shephard, 1978; Kovera, Penrod, Pappas, & Thill, 1997). The research by Kovera et al. illustrates the difficulty of generating a composite that resembles the intended target. The researchers used a set of 50 composite images of the faces of high-school classmates and faculty created by former students. Other graduates of the same schools judged the composites' quality. The judges were told that some of the composites were of former high-school classmates; they were asked to identify them, rating the faces' familiarity and their own confidence in that

assessment and, where possible, giving names. Ratings of familiarity and confidence did not differentiate significantly between the known and unknown faces, and only 3 of the 167 names offered for the composites proved to be correct! Ratings by the composite constructors of their familiarity with the targets and their assessments of the quality of their composites were unrelated to identification accuracy on any measure. The researchers concluded that “the findings . . . raise doubts about the likelihood that composites prepared under field conditions will yield a pinpointed identification of a perpetrator by individuals who know the perpetrator” (Kovera et al., 1997, p. 245).

Although early research using the Identi-Kit and Photo-Fit suggested that the poor likenesses might be due to the composite systems themselves (e.g., too few choices of features; Ellis et al., 1978), there is an emerging consensus that people simply do not have good memories for isolated facial features and that any system that requires parts-to-whole-face recall will be severely limited. Furthermore, research suggests that having eyewitnesses build a composite face can damage memory for the original face and make the witnesses less able to recognize the original target face in a later lineup (Wells, Charman, & Olson, 2005). Similar effects have been observed for giving verbal descriptions of faces, a phenomenon called the *verbal overshadowing effect* (originally demonstrated by Schooler & Engstler-Schooler, 1990; and see meta-analysis by Meissner & Brigham, 2001b).

Recent research has produced some encouraging results for cases in which multiple eyewitnesses independently produce composites. In such cases, morphing the individual composites produces a new face that is a better likeness of the person than is any individual composite (Bruce et al., 2002; Hasel & Wells, in press). But even the morph of four individual composites does not produce a dramatic likeness of the original face. Hasel and Wells reported that the ability to pick the original target from sets of four alternative faces was 35% for individual composites and 48% for four-composite morphs (chance = 25%).

## POSTDICTION VARIABLES

*Postdiction variables* are neither system nor estimator variables in the traditional sense, because they are not presumed to causally affect the accuracy of eyewitnesses. These variables are measurable products that correlate with the accuracy of eyewitnesses in a noncausal manner. The most researched of these is the confidence (certainty) of the eyewitness. Another postdiction variable is response latency—specifically, how long the eyewitness takes to make an identification. The third postdiction variable that we review here is self-reported decision process.

### Confidence

The confidence an eyewitness expresses in his or her identification is one of the most researched questions in the study of

eyewitnesses. First, there is a strong intuitive appeal to the idea that confidence and accuracy should be closely related. Second, courts have explicitly endorsed the idea that the reliability of an eyewitness should be gauged at least in part by the person's confidence, a tenet advocated by the U.S. Supreme Court (*Manson v. Braithwaite*, 1977). Third, even in the absence of instructions to pay attention to eyewitness confidence, participant jurors rely heavily on the confidence of the eyewitness in deciding whether he or she made an accurate identification (e.g., Bradfield & Wells, 2000; Fox & Walters, 1986; Lindsay et al., 1986; Lindsay et al., 1989; Lindsay et al., 1981; Wells, Ferguson, & Lindsay, 1981; Wells et al., 1979).

Initially, eyewitness researchers focused on the relationship between eyewitness-identification confidence and eyewitness-identification accuracy (Wells & Murray, 1984). This was a useful starting point, but it is now clear that the relationship between confidence and accuracy varies greatly as a function of many other factors. For instance, it depends, in part, on how similar the mistakenly identified person is to the actual target (Lindsay, 1986). The confidence-accuracy relationship is generally higher when memory strength is stronger rather than weaker (Deffenbacher, 1980); when it is calculated only among those who make an identification rather than among both those who make an identification and those who do not (Sporer, Penrod, Read, & Cutler, 1995); and when it is calculated across witnesses under different viewing conditions rather than among witnesses who had the same viewing conditions (Read, Vokey, & Hammersley, 1990).

In their meta-analysis of 30 studies involving a total of 4,036 participant witnesses, Sporer et al. (1995) estimated that the confidence-accuracy correlation among choosers could be as high as +.41. Wells, Olson, & Charman (2002) note that a .41 point-biserial correlation (a correlation between a two-level variable and a continuous variable) between confidence and accuracy in eyewitness identification is less than the point-biserial correlation between height and gender in humans. Nevertheless, under conditions of uncertainty, a postdiction variable that has a .41 correlation to a criterion variable is not something that should be ignored. In fact, the American Psychology-Law Society's white paper on lineups endorses the idea of making a clear record of the confidence of an eyewitness that triers-of-fact might later use (Wells et al., 1998).

### Accuracy of Highly Confident Witnesses

Though confidence-accuracy correlations are sometimes relatively high, most research yields relatively low correlations. Attempts have been made to increase the correlation through accountability, context reinstatement, and other thought manipulations, but none has been successful, and such measures commonly have the reverse effect of harming the confidence-accuracy relationship (Robinson & Johnson, 1998). Some have argued that despite the generally weak confidence-accuracy correlation, accuracy may be very high among the most confi-

dent witnesses. One analytic method that addresses this question uses calibration methods that measure peoples' confidence on a percentage scale (zero, 10%, 20%, 30%, and so on) and then clumps people together at different levels of confidence to assess their accuracy (see Brewer, Keast, & Rishworth, 2002; Brewer, Weber, & Semmler, 2005; Brewer & Wells, 2006; Cutler & Penrod, 1989; Juslin, Olsson, & Winman, 1996; Weber & Brewer, 2003, 2004).

Cutler and Penrod found witness overconfidence of 10 to 20% (that is, witnesses were making 10%–20% more errors than their confidence levels indicated). Juslin et al. (1996) found that confidence scores were roughly comparable to accuracy scores; in particular, in a 95% confidence group, judgments were 85 to 90% accurate (the exact numbers are not reported—numbers are estimated from figures). Although these numbers look promising, even in the 95% confidence group there appear to be 10 to 15% errors; errors are much higher—with greater overconfidence—at lower confidence levels.

Other researchers have found less promising results. Though the published numbers are slightly ambiguous, it appears that the top 21% most confident witnesses in Brigham, Maas, Snyder, and Spaulding (1982) were 85% correct. Brewer et al. (2002) found that eyewitnesses who were very confident in the accuracy of their identifications (95% certain) were about 70 to 75% correct—that is, high error rates and substantial overconfidence. In a 1987 study by Fleet, Brigham, and Bothwell, 75% of subjects who rated themselves as extremely confident were accurate. Brigham (1990) found a 74% accuracy rate for the top 27% most confident witnesses. Bornstein and Zickafoose (1999) reported that they found overconfidence in both general-knowledge domains and eyewitness-memory domains and that the two were correlated. The latter finding suggests that confidence has an individual-difference component that can be independent of the task. Research by Perfect and Hollins (1996) suggests that poor confidence–accuracy relationships are at least partly attributable to people's lack of insight regarding their general abilities in the eyewitness domain.

The general point is that these results are consistent with other measures of the confidence–accuracy relationship. Even the calibration approach does not uniformly support the notion that confidence is a highly reliable indicator of accuracy. Error rates can be high among even the most confident witnesses. Furthermore, these numbers presume that the criminal justice system would skim off only the most confident witnesses and that none of those witnesses would have had their confidence artificially boosted.

#### *The Problem Grows Worse*

Imagine that prosecutors are skimming only the most confident witnesses; there is no artificial confidence-boosting among the witnesses; and we have reliable measures of confidence, not the vague verbal reports currently obtained by police. Among these highly confident witnesses, the results above indicate that 20 to

30% could be in error. But even if the error rate is only 10% for these highly selected and most confident witnesses, they will all appear highly confident to jurors—so confidence cannot help the jurors figure out which witnesses have made errors. Indeed, the simple correlation between confidence and accuracy for these witnesses will be much worse than among all witnesses, because there is very little variability in confidence and maybe no useful variance. Though it is tempting to conclude that jurors might be entitled to assume a fairly high base rate of accuracy among these highly confident witnesses (even if confidence cannot aid them in differentiating accurate and inaccurate witnesses), the pleading effect discussed earlier suggests that it would not be safe to conclude that the accuracy rate is fairly high; indeed, the accuracy rate could be fairly low, because the guilty defendants facing confident witnesses have already pleaded guilty. In short, the research results and logic call into question the notion that witness confidence can be of significant assistance to jurors.

Even if the research showed that eyewitness-identification confidence and accuracy are related at a level that could have practical utility, this conclusion would come with another huge caveat. Wells and Bradfield (1998) showed that giving confirming feedback to eyewitnesses who had made mistaken identifications (e.g., “Good, you identified the suspect”) produces profound distortions in their retrospective judgments, including their recollections of how confident they were when they made their identification, how good a view they had when they witnessed the event, and how much attention they devoted to the target's face during the event.

The idea that eyewitness confidence can be driven by variables that are independent of accuracy has theoretical roots in Leippe's (1980) early analysis of the problem, but the fact that other testimony-relevant variables (such as self-reports of attention and view) are also malleable is a startling revelation. There are numerous replications of this phenomenon, known as the *post-identification feedback effect* (Bradfield, Wells, & Olson, 2002; Dixon & Memon, 2005; Hafstad, Memon, & Logie, 2004; Neuschatz et al., 2005; Semmler, Brewer, & Wells, 2004; Wells & Bradfield, 1998, 1999a; Wells, Olson, & Charman, 2003; also see a meta-analysis by Douglass and Steblay, in press). The post-identification feedback effect occurs even if the feedback is delayed for 48 hours (Wells et al., 2003). The effect occurs for both positive identifications and “not there” decisions (Semmler et al., 2004), and the effect occurs for both the elderly (Neuschatz et al., 2005) and young children (Hafstad et al., 2004). Importantly, the confidence-inflating effect of confirming feedback is greater for eyewitnesses who have made a mistaken identification than for those who have made an accurate identification; as a result, confirmatory post-identification feedback harms the accuracy–confidence relationship (Bradfield et al., 2002). Furthermore, a recent experiment showed that the post-identification feedback effect occurs for actual eyewitnesses to real crimes (Wright & Skagerberg, in press).

The post-identification feedback effect is of considerable practical import, because it is a common practice for lineup administrators to give eyewitnesses feedback about their identifications. When an eyewitness has received some form of feedback before being asked about his or her confidence in the identification, the confidence statement is contaminated. Eyewitnesses tend to believe that the feedback did not affect them; however, those who report that the feedback did not affect their response to the retrospective confidence question are nevertheless affected just as much as are the smaller portion of witnesses who report that it might have affected them (Wells & Bradfield, 1998). Fortunately, if the eyewitness is asked to indicate his or her confidence level before receiving feedback, this tends to inoculate the eyewitness against post-identification feedback effects (Wells & Bradfield, 1999a). The need for immediate measures of confidence is further indicated by the fact that repeated questioning, expenditure of effort over time, and public displays of confidence (as might happen at a trial) all tend to inflate eyewitness confidence even when accuracy is held constant (Shaw & McClure, 1996; Shaw & Zerr, 2003; Shaw, Zerr, & Woythaler, 2001). Clearly, the most pristine measure of witness confidence is one collected from the witness at the time of identification and before the contaminating influence of these later events.

An intriguing phenomenon that appears to be related to the post-identification feedback effect is *visual hindsight bias*. Harley, Carlsen, and Loftus (2004) presented participants with photographs of familiar faces that were severely degraded (blurred) but gradually resolved to full clarity. After the identity of the face became apparent, participants predicted the level of blur that would permit a naïve observer to identify the face. Participants who had already learned the identity of the face consistently predicted that a naïve participant would be able to identify the face at levels of blur that were in fact too severe for identification. Thus, once the “correct” answer is known, people think that objectively poor viewing conditions are nevertheless sufficient for accurate identification. This “saw it all along” effect could be an important component of the propensity for eyewitnesses to have retrospective overconfidence in their identifications.

### Response Latency

Another interesting postdictor of eyewitness accuracy is the *response latency* of the eyewitness in making a lineup identification. We use “response latency” rather than “decision time,” because the former term incorporates both decisional and motor components (Weber, Brewer, Wells, Semmler, & Keast, 2004). The effect was first documented by Sporer (1992); considerable data have accumulated showing that witnesses who make accurate identifications from lineups do so faster than do those who make inaccurate identifications (Dunning & Perretta, 2002; Dunning & Stern, 1994; Smith, Lindsay, & Pryke, 2000; Smith, Lindsay, Pryke, & Dysart, 2001; Sporer, 1993, 1994; Weber

et al., 2004). Sporer (1992) suggested that this occurs because comparisons made to the target involve a large number of common features between memory and the stimulus face, thereby permitting a very fast decision in recognizing the target. Comparisons to an innocent lineup member, on the other hand, involve fewer common features between memory and the stimulus, thereby resulting in a slower decision. The potential practical value of the negative relation between response latency and identification accuracy is considerable because, unlike confidence, response latency is a performance variable rather than a self-report. And, unlike confidence, response latency can be measured without the eyewitness’s awareness. Furthermore, response latency and confidence are not fully redundant postdictors of accuracy (Smith et al., 2001; Weber et al., 2004).

For response latency to be useful at the level of evaluating an individual eyewitness, however, some criteria have to be set for “fast” and “slow.” How are police, prosecutors, judges, and juries to know whether a given result (e.g., response latency of 20 seconds) was fast or slow and thus should be considered accurate or inaccurate? Dunning and Perretta (2002) approached this problem by repeatedly selecting different response latencies, examining the percentages correct above and below each response latency, and calculating the obtained chi-square values for each response latency. The response latency that produced the greatest value was then considered to be the best rule for deciding on the decision criterion. Using this approach, Dunning and Perretta found that a response latency of 10 to 12 seconds worked best across four different data sets. Furthermore, the 10–12-second response latency was highly discriminating—those who responded before the 10–12-second latency had a probability of accuracy of nearly 90%, while those who took longer than 10–12 seconds had a probability of accuracy of approximately 50%. Dunning and Perretta called this the “10–12 second rule.” The consistency of the 10–12-second response latency data sets fits nicely with Dunning and Stern’s (1994) notion of automatic versus deliberative processing in eyewitness identification. They argued that automatic decision processes (which are fast) are likely to be characteristic of accurate eyewitnesses, while deliberative processes (which are slower) ought to be more characteristic of inaccurate eyewitnesses. Furthermore, because automatic processes tend to be uninfluenced by decision context, the speed of accurate identifications ought to be relatively stable across situations—hence, the 10–12-second rule was proposed to be stable across various circumstances and conditions.

More recent research, however, has shown that the 10–12-second rule is not stable across variations in witnessing and lineup conditions. Weber et al. (2004) found that the maximally discriminating time ranged from 5 seconds to 29 seconds across variations in conditions. Furthermore, eyewitnesses who responded faster than the optimal time boundaries did not show particularly high probabilities of being accurate; they were often

in the 50 to 60% range rather than the 90% range found by Dunning and Perretta (2002). Although the 10–12-second rule does not appear to be stable, the fact that accurate identifications are made faster than inaccurate identifications is itself a very reliable finding.

### Self-Reported Decision Processes

Another potential postdictor of eyewitness-identification accuracy is eyewitnesses' reports of the processes they use to make their identification decisions. Wells (1984) argued that mistaken identifications tend to arise from making relative judgments in which the eyewitness compares one lineup member to another to decide who looks most like the target; Wells argued that an absolute judgment (comparing the lineup member to memory) would be more likely to be accurate. Consistent with this assumption, Stern and Dunning (1994) found that eyewitnesses who agreed with the statement "I compared the photos [in the lineup] to each other to narrow the choices" were more likely to have made a mistaken identification than were those who endorsed the statement "I just recognized him, I cannot explain why" or those who said the photo "popped out." Similar results have been reported by Smith et al. (2000), Smith et al. (2001), Dunning and Stern (1994), and Lindsay and Bellinger (1999).

One of the problems with self-reported decision processes is that, like eyewitness confidence, they are subject to distortion. For instance, confirmatory post-identification feedback leads eyewitnesses to be more likely to recall that the lineup photo "popped out" and less likely to report having made a relative judgment (Wells & Bradfield, 1998). Furthermore, if eyewitnesses thought these kinds of self-reports would be used to assess the likely accuracy of their identifications, they might shape their answers accordingly.

Overall, it appears that postdiction has not been highly successful for eyewitness identification. Indicators of confidence measured at the time of the identification may have some diagnostic value with regard to accuracy, but feedback, prosecutorial skimming, and plea bargaining can operate to obliterate the diagnostic value of confidence. This underscores the primary message of the system-variable approach—namely, that it would be better to use procedures that help prevent mistaken identifications from occurring in the first place than to try to detect errors after the fact.

### PROGRESS AND PROSPECTS

Eyewitness science has made considerable progress in recent years in getting a number of jurisdictions in the United States to improve their identification procedures and undertake training in the cognitive interview. The state of New Jersey, for instance, has adopted an entire package of reforms for how it conducts lineups. These reforms are based explicitly on the eyewitness literature and include the adoption of recommendations for

selecting lineup fillers, instructing eyewitnesses before the lineup, using double-blind lineup administrators, using the sequential procedure, and obtaining a confidence statement from the eyewitness before external factors can influence the person's confidence. Other jurisdictions—including the states of Wisconsin and North Carolina and the cities of Boston and Minneapolis—have also adopted these reforms. In each of these jurisdictions, eyewitness scientists played a central role in explaining the literature and helping translate the findings into practical reforms of eyewitness-identification procedures.

In many jurisdictions, eyewitness researchers have become involved in training police investigators in eyewitness-identification procedures or training the trainers. Increasingly, eyewitness researchers are targeting some of their writings toward law enforcement journals to more directly make the research findings accessible to law enforcement (e.g., Turtle, Lindsay, & Wells, 2003). Jury simulations have shown that mock jurors respond more favorably to eyewitness-identification testimony when it was obtained using these packages of reformed procedures than when procedures deviate from these reforms (Lampinen, Judges, Odegard, & Hamilton, 2005). This is an unusual impact for a laboratory-based psychological science. In the years ahead, it is expected that these reforms will become even more widespread and the role of scientific psychology more deeply ingrained in the legal system.

Despite this progress, we believe that research has only scratched the surface of ways to help the legal system improve the accuracy of eyewitness accounts. Thus far, almost all improvements to lineup procedure have been designed to reduce the chances that an innocent suspect will be identified without reducing identifications of the target. It has been more difficult to discover ways to increase the chances that the eyewitness will identify the target in target-present lineups. Both research experiments and archival analyses of actual lineups suggest that eyewitnesses fail to identify the target about 50% of the time. This does not necessarily mean that the target walks away; in some cases, other evidence is sufficient to charge or convict the person. Nevertheless, there is room to improve these hit rates. It seems likely that some failures to identify the target from target-present lineups are due at least in part to changes in the target's appearance. Specifically, the appearance of the target when the eyewitness viewed the crime represents a moment in time. The photo seen in a photographic lineup may be older or more recent. Attempts to use pre-lineup instructions that warn the eyewitness that the target's appearance might have changed have not proved successful in increasing accuracy; in fact, they seem to increase errors (Charman & Wells, in press).

It could be argued that research has been profoundly conservative in its approach to the eyewitness-identification problem. Specifically, researchers have tended to operate within the confines of the traditional lineup, in which a suspect is placed among fillers and the eyewitness makes a verbal identification. But what if the lineup had never existed and the legal system

turned to psychology to determine how information could be extracted from eyewitnesses' memories? Specific methods for obtaining detailed reports from witnesses—such as the cognitive interview—do not appear to aid identification, but the quality of witness descriptions could be improved through innovative questioning procedures. This is an area in which research is sparse, despite the potential to study the effectiveness of various types of retrieval cues in eliciting descriptions (Sporer, in press). The focus on target identification has also resulted in research that has selectively focused on the impact of a specific system or estimator variable on lineup performance, instead of exploring relevant interactions. For example, is the weapon-focus effect more pronounced when a witness has a shorter exposure to the target, when the retention interval is longer, and when the witness is making a cross-race identification? Operating from scratch, it seems likely that modern psychology would have developed radically different ideas. For instance, brain-activity measures, eye movements, rapid displays of faces, reaction times, and other methods for studying memory might have been developed instead of the traditional lineup. Once we step outside the confines of the traditional lineup, it is possible to imagine a future science of eyewitness evidence that is radically different from the methods used today.

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**D**

**Eyewitness Identification  
A Policy Review**



Wrongfully convicted  
at age 25, Calvin Johnson  
received a life sentence  
for the rape of a  
Georgia woman after  
four different women  
identified him.  
Exonerated in 1999,  
he walked out of prison  
a 41-year old man.

# Eyewitness Identification

*A Policy Review*

The true rapist has  
never been found.

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# INTRODUCTION

## A measure of fairness and accuracy in the criminal justice system

Eyewitness identification is critical to the apprehension and prosecution of criminals. Eyewitness evidence can also be an important tool for exonerating innocent suspects. Groundbreaking research on eyewitness memory over the past three decades, as well as increasing attention to the problems in the cases of wrongfully convicted individuals, has brought the fallibility of eyewitness memory to the fore.

Eyewitness misidentification is widely recognized as the leading cause of wrongful conviction in the United States, accounting for more wrongful convictions than all other causes combined.<sup>1</sup> Since 1989, DNA evidence has been used to exonerate nearly 200 individuals who were wrongfully convicted. Of those, approximately 75 percent were convicted on evidence that included inaccurate and faulty eyewitness identifications.<sup>2</sup> In some cases, these innocent individuals were misidentified by more than one eyewitness.

In the vast majority of criminal cases, however, DNA or other biological evidence is not available to establish guilt or innocence. Given the persuasive nature of eyewitness evidence, as well as the inherent danger of misidentifications—both in convicting the innocent and allowing the true perpetrator to go free—it becomes imperative that we take stock of the procedures within the control of the criminal justice system that contribute to these problems in order to ensure that the most reliable evidence possible makes it into a courtroom and before a jury.

A number of challenges emerge in pursuit of a more accurate protocol, none more prevalent than an historical lack of communication between scientists and law enforcement.<sup>3</sup> Decades of empirical research have proven that a number of small changes to identification procedures can help improve the accuracy and reliability of eyewitness identifications, and help ensure that the highest quality of eyewitness evidence is collected.

What's more, when put to the test in numerous jurisdictions throughout the country, these reforms have met with real-life success. Thus, it may seem surprising that these reforms have not been implemented in police districts across the board.

While much of the research has been extensively documented and peer-reviewed within the scientific community, and the recommendations for reform are widely accepted by experts in the field, these reforms were initially discussed and developed outside the realm of law enforcement.

Starting in the late nineties, however, leading researchers joined with law enforcement and legal practitioners to bridge the gap and comprehensively address eyewitness identification issues at the intersection of the two fields. As a result, guidelines and best practices for law enforcement were developed with the science in mind.

In October 1999, the Department of Justice released a comprehensive guide for law enforcement on procedures for obtaining more accurate eyewitness

**Eyewitness misidentification is widely recognized as the leading cause of wrongful conviction in the U.S., accounting for more wrongful convictions than all other causes combined.**

evidence.<sup>4</sup> However, there is no current national program or federal agency responsible for educating local departments about these reforms—or in assisting with their practical implementation.<sup>5</sup>

Moreover, as reforms are implemented on a jurisdiction-by-jurisdiction basis in some states, there continues to be little opportunity for sharing information and perhaps even less incentive, given the already overloaded criminal caseloads of police, prosecutors and defenders, and the lack of leadership from the courts or legislature on the issue.

This policy review has been designed to facilitate communication among local law enforcement agencies, policymakers, and others regarding the best practices and methods for enhancing the evidentiary value of correct identifications and at the same time reducing the risk of erroneous identifications. By presenting many of the successful methods employed in local jurisdictions, as well as the science behind them, we hope to create a dialogue around recommendations that will enhance the quality of evidence relied upon in criminal trials, as well as confidence in our system of justice.

# RECOMMENDATIONS & SOLUTIONS

## Getting it right the first time

A handful of specific improvements have emerged as pragmatic strategies for minimizing eyewitness error. While modernizing identification procedures to incorporate advances in eyewitness memory science requires retooling long-standing lineup methods engrained in police culture, the substantial benefits of implementing the protocol are leading more jurisdictions to update their procedures to catch up with the science.

Because eyewitness evidence, much like trace evidence, is susceptible to contamination, some eyewitness identification procedures actually increase the risk of false identification. By improving these procedures in subtle ways, the actual quality of eyewitness evidence can be improved.

The following recommendations reflect the consensus in the scientific community — confirmed by successful implementation in numerous jurisdictions — as to the procedural changes that will enable law enforcement to extract the most reliable evidence from eyewitnesses for use in a criminal investigation.

These practical changes to the identification process help increase the likelihood of identifying the true culprit while enhancing protections for innocent people accused of crimes.

These reforms are equally effective for photographic lineups and live lineups.

### CAUTIONARY INSTRUCTIONS

Prior to presenting the lineup members, the eyewitness should be instructed that the perpetrator may or may not be included in the lineup, and that she should not feel compelled to make an identification.

Cautionary instructions respond, in part, to the tendency of witnesses to make a relative judgment by removing some of the pressure on the eyewitness to choose a suspect when the culprit may not be in the lineup.

### EFFECTIVE USE OF FILLERS

Only one suspect should appear in each lineup. In addition, at least five fillers should be included in a photo lineup, and at least four fillers in a live lineup. The fillers should resemble the witness's description of the perpetrator, and the suspect should not unduly stand out.

Fillers, if chosen correctly, allow authorities to judge the reliability of an eyewitness. The effective use of fillers is critical to ensuring that an innocent individual is not identified simply because of the composition of the lineup.

### DOCUMENTATION

The identification procedure should be carefully documented. Documentation includes preservation of photos in a photo array or photographs taken of a live lineup, recording all individuals present at the lineup, documentation of the witness's statements regarding the lineup members during the procedure, and, if an identification is made, documentation of the witness's degree of confidence in the identification, in the witness's own words, prior to any feedback from authorities.

Careful documentation of the lineup procedures, including a witness's level of certainty that she has correctly identified the perpetrator, when taken immediately following the identification, helps the jury to assess the eyewitness evidence appropriately and minimizes the effects of reinforcing feedback that can distort the confidence level of an eyewitness between the time of the identification and the trial.

### DOUBLE-BLIND ADMINISTRATION

The person who administers the lineup should not know the identity of the suspect. This procedure prevents well-intentioned officials from giving inadvertent clues to the witness as to which person in the lineup is the police suspect.

### SEQUENTIAL PRESENTATION

The lineup members should be presented to the witness "sequentially" (one at a time) rather than simultaneously (all at once). Sequential presentation should only occur, however, if the identification procedures comply fully with the double-blind administration recommendation.

Presenting the lineup members one at a time to the witness reduces the tendency for witnesses to engage in "comparison shopping." Rather, an eyewitness must judge whether each lineup member matches her memory of the perpetrator, as opposed to making a relative judgment.

# PSYCHOLOGICAL FACTORS

## Preventing unreliable evidence in the courtroom

**R**eliable eyewitness evidence is critical to criminal investigation and prosecution, and it plays a powerful role within the criminal justice system. The repeated discovery of misidentifications contributing to wrongful convictions, however, has prompted inquiries into the nature of eyewitness evidence used to convict criminal suspects, and the problems that arise in utilizing human memory in criminal investigations.

The scientific community has brought the knowledge built through decades of research and experiments to bear on eyewitness identification procedures. Important lessons learned in the laboratory, and in the decades of research devoted to eyewitness memory science, are of enormous value in the legal and law enforcement communities. This substantial body of research has revealed that several natural psychological phenomena can undermine the accuracy of eyewitness identification, and that these psychological factors, left unchecked, can lead to unreliable evidence being presented in the courtroom.

Several natural psychological phenomena can undermine the accuracy of eyewitness identification, and these psychological factors, left unchecked, can lead to unreliable evidence being presented in the courtroom.

### LINEUPS AS EXPERIMENTS

Just as trace physical evidence (such as DNA or fingerprints) can be contaminated if it is not collected precisely and carefully, so too eyewitness evidence can be spoiled if it is gathered in ways that do not properly control for known sources of error.<sup>6</sup>

As some researchers have described, a lineup is essentially an experiment designed to test a hypothesis: whether the suspect matches the witness's memory of the perpetrator.<sup>7</sup> Like scientific experiments, careful controls must be put in place to ensure accuracy and prevent the witness's memory from being contaminated or skewed.

Essentially, the lineups as experiments analogy suggests that the logic used to conduct experiments — i.e., isolating variables and implementing careful control conditions — can and should be applied to the legal system when conducting lineups. Using some of the tried and true scientific methods for conducting experiments when conducting a lineup greatly reduces, or in

some cases eliminates, the risk of contamination of the data (i.e., eyewitness identification evidence).

### RELATIVE JUDGMENT

Relative judgment refers to the natural tendency of a witness to consider lineup participants in comparison with one another, as opposed to a more direct comparison of each lineup member with the witness's memory of the culprit. A witness viewing a lineup will thus tend to identify the person who looks most like the perpetrator in comparison to the other members in the lineup.<sup>8</sup> While, at face value, this process seems unproblematic, it can actually lead to inaccurate and unreliable identifi-

cations under certain conditions — namely, when the police suspect is innocent.

The purpose of a lineup is to differentiate innocent suspects from those who actually committed crimes using an eyewitness's memory of an event. Thus, when conducting a lineup, law enforcement officers do not know if a suspect

included in a lineup is, in fact, the true perpetrator or simply an innocent person suspected of a crime. If the lineup is full of innocent people (an innocent suspect and a group of innocent fillers), however, relative judgment would mean that an innocent person may be identified, because it is likely that there will always be someone in the lineup who looks more like the person who committed the crime than the other members of the lineup.

Sometimes this person will be a filler, and a witness identification will be dismissed. But sometimes an innocent suspect will be the victim of this tendency toward “comparison shopping,” because the witness is always making a relative judgment — the witness is always picking the person who looks closest to the culprit relative to the other lineup members, even if the lineup is full of innocent people.

Take for example a six-person lineup that contains the actual culprit. It has been proven that wit-

nesses who saw the same event will often pick someone out of a lineup when the culprit is removed. In other words, regardless of whether a culprit is in a lineup, witnesses tend to pick the person who looks closest to the culprit, even when the culprit is not present. As leading researchers have noted, “The problem with the relative judgment process, therefore, is that it includes no mechanism for deciding that the culprit is none of the people in the lineup.”<sup>9</sup>

### MALLEABILITY OF WITNESS CERTAINTY

Traditionally, a witness’s self-reported degree of certainty in an identification was considered a good indicator of accuracy. Unfortunately, a great deal of research in recent decades has proven this intuitive assumption false. The level of certainty a witness expresses in her eyewitness testimony does not necessarily correlate with the level of accuracy of the identification. An eyewitness’s confidence that she has identified the culprit can fluctuate as a result of factors that occur after the identification and have little to do with memory. This is what is referred to as confidence malleability.<sup>10</sup>

For example, experiments have been conducted in which witnesses were shown a staged crime and asked to identify the culprit from a lineup. The lineup they were shown, however, did not contain the culprit. After the witnesses unknowingly made false identifications, they were then asked their level of confidence. Before doing so, however, some of the witnesses were given various types of reinforcing feedback. Those witnesses who received some confirmation of their false identification, whether the information that a co-witness identified the same individual or some other confirming feedback, were far more confident in their identifications than other witnesses who were given no feedback — despite having given false identifications. These witnesses also distorted and exaggerated certain details, such as how good their view was, how much of an opportunity they had to view the culprit, etc.<sup>11</sup> Our new and better understanding of the influence feedback plays on a witness’s self-described level of confidence strongly suggests that measures that control for this influence be adopted in our identification procedures.

## THE SCIENCE

### Demanding changes in eyewitness identification procedures

Scientific treatments of eyewitness evidence began over 100 years ago, most notably with Harvard Professor Hugo Munsterberg’s 1908 book, *On the Witness Stand*.<sup>12</sup> While Munsterberg established that eyewitness evidence was much more fallible than previously thought, his research did not show a way forward. Based on the science of the day, the legal system had no capacity for dealing with these mistakes, and the system could not sort the mistakes from the true identifications.<sup>13</sup> The science, at first, only documented the problem, but it could provide no solutions.

In the late 1970’s, however, eyewitness memory scientists began to zero-in on the particular sources of eyewitness error and test revised identification procedures that reduced the risk of mistakes. The guiding principle of this new research was that we must do all we can to ensure good quality evidence on the front end of the process, rather than trying to second guess identifications after the fact. For the research on eye-

witness fallibility to be useful, it had to be applied to the criminal justice system in a way that allowed the system to prevent or reduce future mistakes. Scientists thus focused on the ways that the system of collecting eyewitness evidence could *itself* cause mistakes, in hopes that these mistakes could be prevented before they occurred.<sup>14</sup>

The past three decades of eyewitness research and discussion have coalesced around this purpose — preventing false identifications with research-based improvements to the system. Largely, these improvements focus on controlling the suggestiveness of the lineup procedures themselves. A discussion of the science behind these improvements follows.

### CAUTIONARY INSTRUCTIONS

Regardless of whether the true perpetrator is in a lineup, an eyewitness may feel pressure to make an identification. Witnesses know that, at the very

least, a lineup contains a police suspect. When the culprit is not, in fact, present in the lineup, this perception, combined with the natural tendency to compare lineup participants and make a relative judgment, may influence an eyewitness to identify an innocent person.

Cautioning an eyewitness that the offender may or may not be in the lineup reminds witnesses that the answer may be “none of the above.”<sup>15</sup>

Research has shown that this extra step, while on its face pointing out a fact that should be obvious, significantly lowers the rate of inaccurate identifications without reducing the number of true identifications.<sup>16</sup>

### EFFECTIVE USE OF FILLERS

Relative judgment theory means that an eyewitness viewing a simultaneous lineup tends to make a judgment about which individual in the lineup looks most like the perpetrator relative to the other members of the lineup. This is particularly problematic when a lineup only contains innocent people (i.e., a number of fillers and an innocent suspect).

Research has shown, however, that the effective use of fillers when composing a lineup can help combat the tendency for the relative judgment process to lead to the identification of an innocent suspect.<sup>17</sup>

First, ensuring that the suspect in the lineup does not stand out, or that the fillers resemble the witness's prior description of the culprit at least as much as the suspect does, guards against the eyewitness choosing an innocent suspect simply because the suspect is the only lineup member that resembles the perpetrator.

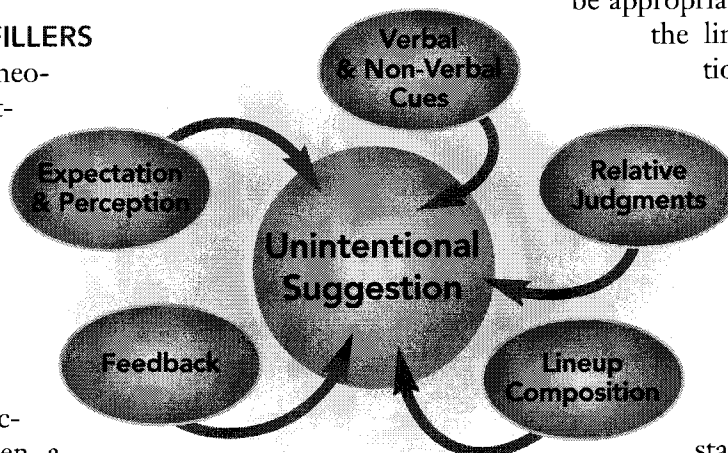
For example, if the eyewitness describes the perpetrator as an Asian man with a mustache, and there is only one man in the lineup who is Asian and has a mustache, then the lineup is obviously suggestive, and the evidentiary value of any identification is nil. In contrast, if all of the lineup members resemble the prior description of the culprit (or all of the lineup members are Asian men with mustaches), then the

eyewitness will have to rely more on comparisons to her own memory of the culprit. In short, no lineup participant can unduly stand out for a lineup to be effective. This holds true in general, but especially with regard to features of the witness's description of the culprit. For example, if a witness describes the perpetrator as having a particular feature such as a mustache, the lineup must be composed with all members sharing that feature.

There are certainly cases where selecting fillers is not as clear-cut. For example, if the suspect does not fit the witness's prior description of the suspect but other evidence creates suspicion of guilt, then it may be appropriate to place that suspect in

the lineup, as witness descriptions can sometimes be off the mark. If so, however, the fillers must be chosen to be similar to the appearance of the suspect.<sup>18</sup> There are methods for dealing with contingencies, but the true test of this rule is whether the suspect stands out relative to the other fillers.<sup>19</sup> In other words, if

a person who is not involved in the case is given a description of the perpetrator, would she be able to pick the suspect out of the lineup? Including only one suspect in a lineup is also a fundamental safeguard against misidentification. Lineups not only allow police to judge whether a suspect is innocent, they also allow investigators to judge the reliability of an eyewitness. If a lineup contains more than one suspect, however, its ability to test reliability is diminished. This is because it increases the likelihood that a witness would select a suspect based on a guess rather than recognition. The more choices in the lineup test that could be considered “correct” (i.e., suspect identification), the less the lineup can control for witnesses with weak memories or those who guess. The same considerations underpin the need to include an adequate number of fillers. Doing so also reduces the likelihood of an eyewitness identifying an innocent suspect based on a guess. For example, if there is only one suspect and one filler,





the likelihood that an innocent suspect will resemble the culprit more than the other lineup members is 50 percent. If three fillers and one suspect, the likelihood is 25 percent; and so on.<sup>20</sup> While there is no magic number of fillers that should be used, the science has shown that the greater the number of fillers, the greater the reliability of the procedure.

## DOCUMENTATION

Lineup identifications are a critical component of the investigation of criminal cases. Given the overwhelming importance of eyewitness testimony and the weight afforded to it by juries, it is essential to provide sufficient contextual information about an identification in order for fact-finders to evaluate its evidentiary weight correctly. Careful documentation of lineup procedures, where possible, means that a complete and accurate record of the methods used to obtain an identification is preserved for review. Recording the identification and the non-identification results, the dialogue between witnesses and police, and the photos themselves (or photographs of a live lineup), serves as much to protect the police from false claims of influencing a witness as it does to preserve the integrity of the evidence. Thorough documentation has the power to put an identification beyond reproach.

Scientists have shown that a number of procedures within the system actually contribute to misidentifications. Complete documentation allows any suggestiveness in the procedure to be considered by judges and juries in deciding how to weigh the evidence and, when reliable procedures are used, it strengthens the evidentiary value of an identification.

A critical component of appropriate documentation is recording an eyewitness's statement of confidence (or self-assessment of certainty) immediately after an identification. This guards against the confidence malleability problem — when an eyewitness's confidence that she has identified the culprit fluctuates as a result of factors that occur after the identification. To document a witness's confidence, the wit-

ness is asked her level of certainty that the person being identified is the true perpetrator *prior to receiving any feedback from authorities or other witnesses*. The witness's confidence level should be recorded in her own words in order to allow judges and juries to evaluate eyewitness testimony in an informed manner.

Studies have shown that information provided to an eyewitness after an identification can influence the witness's level of confidence, and thus skew a juror's assessment of the accuracy of the identification. For example, if an eyewitness makes an identification of a

suspect, and that same witness later learns that the person identified also has a criminal record, the witness's confidence level may become artificially inflated.

Confirmatory feedback oftentimes occurs without the knowledge or intent of investigators in the case or even the eyewitness, and if a confidence statement is not taken directly

after the identification, the window of opportunity for protecting the integrity of the identification evidence as an indicator of accuracy is lost.

## DOUBLE-BLIND ADMINISTRATION

The "double-blind" rule applies the scientific method to lineups, and is rooted in a general strategy for ensuring the objectivity of data collection and interpretation. The purpose of keeping the administrator "blind" as to which person in the lineup is the suspect is to prevent the administrator from unintentionally influencing the results through inadvertent cueing of the witness toward the suspect. A double-blind protocol also eliminates the problem of interpreting ambiguous witness comments and other behaviors through the lens of the theory that the suspect in a lineup is guilty.

Double-blind protocols are familiar to many in the context of pharmaceutical studies to test a new drug. Not only is the patient unaware of whether she received the drug or the placebo, but the doctor who examines the patient during the study is also "blind" to this fact. If the tester knew that the patient had taken the placebo, the tester might unknowingly skew the examination as a result.<sup>21</sup> Double-blind

A critical component of appropriate documentation is recording an eyewitness's statement of confidence (or self-assessment of certainty) immediately after an identification.

protocols are standard practice in such contexts not because we distrust the integrity of the medical and scientific professionals involved, but because we understand the risk of natural human psychological factors that can undermine objectivity. We control for such factors because there is much at stake.

Similarly, if a lineup administrator knows which member of the lineup is the suspect, she might unintentionally influence the identification through verbal or non-verbal cues. A cue can be a statement to the witness or even an administrator's posture or facial expression. Verbal and non-verbal cues are examples of suggestive procedures that can suggest to the witness where a suspect is in the lineup.

Verbal and non-verbal cues can also influence or inflate the certainty of the witness. Given that eyewitness confidence is weighed heavily in the legal system, and given that it has been shown to be highly malleable and particularly susceptible to feedback, it is important to design lineup procedures that eliminate the risk of over-inflating confidence through unintentional suggestion.

## SEQUENTIAL PRESENTATION

Relative judgment theory also serves as the basis for the sequential presentation recommendation. Traditionally, eyewitnesses are shown a lineup or photo array in which the lineup members are presented as a group. This type of presentation actually encourages an eyewitness to "comparison shop" or to judge the lineup members against each other through a process of elimination.

On the other hand, sequential presentation, first articulated by researchers in the 1980s, is a process where the witness is shown the lineup members one by one and asked to decide if the lineup member presented is the perpetrator. By forcing witnesses to consider the lineup members individually, sequential presentation favors a direct and independent assessment of whether each lineup member matches a witness's actual memory of the perpetrator.

Researchers have shown that the sequential presentation, if implemented in tandem with the double-

blind procedure, results in fewer false identifications.<sup>22</sup> It is important to note that if the administrator is not "blind," however, the sequential procedure can actually produce higher rates of false identifications, as witnesses may be more susceptible to unintentional feedback from the administrator when considering one lineup member at a time.

While eyewitnesses have been shown to make fewer choices when viewing a sequential lineup, the research suggests that this is due, in part, to fewer guesses on the part of eyewitnesses with a weak memory of the culprit.<sup>23</sup> A comparison of the accurate and

The "double-blind" rule applies the scientific method to lineups, and is rooted in a general strategy for ensuring the objectivity of data collection and interpretation.

mistaken identifications also suggests that a sequential presentation yields a higher probability that a suspect, if identified using this procedure, is in fact the culprit.<sup>24</sup> In short, the sequential lineup creates a

higher threshold for identification by reducing the influence of the tendency to make relative judgments. As a result, the evidentiary value of identifications gained through sequential lineups is much higher, at the cost of some identifications based on weaker witness memory or witness guesses.

Taking this research into the field has shown a generally positive effect. In a pilot project on the sequential procedures in Hennepin County, Minnesota, (Minneapolis) for example, eyewitnesses picked few fillers. Such a low rate of known errors confirmed the value of sequential procedures for officials in that jurisdiction.<sup>25</sup> In addition, New Jersey implemented sequential procedures statewide in 2000. A pilot project conducted by the Chicago Police Department in 2006, however, raised concerns that sequential double-blind lineups were less accurate than conventional methods.<sup>26</sup> Nonetheless, the Chicago study was criticized as having design problems that undermined the study's ability to yield reliable comparisons.<sup>27</sup> Researchers are currently pairing with other jurisdictions to add to the credible literature on the topic. While some questions have been raised about the value of sequential presentation, on balance, most experts believe that it has proven to be superior in both experimental research and in the field.



## BENEFITS & COSTS

### Investing in a fair and accurate criminal justice system

The benefits of improved eyewitness identification procedures are perhaps best conceived of in terms of the avoided costs. When an eyewitness mistakenly identifies the wrong individual, the costs to public safety are great. Scarce resources in the criminal justice system are misdirected toward investigating and perhaps even trying an innocent person, and not toward convicting and jailing criminals.

"The cost to society of inaccurate eyewitness identifications is twofold," notes psychologist Rod Lindsay of Queens University in Kingston, Ontario. "It's a double error. Not only are you convicting the innocent — or at least putting them through the process of having to get out of the situation — but the guilty are still out there doing the crimes."<sup>28</sup>

A pointed reminder of the costs of misidentification is the case of Clarence Harrison. Wrongfully convicted of a brutal rape in Decatur, Georgia, Clarence Harrison spent nearly 18 years in prison before DNA testing proved his innocence — and showed the eyewitness evidence in his case to be false. After the exoneration, the District Attorney relayed that while the victim was upset by the DNA results, "she is more upset that this means the person who raped her is yet to be identified."

When there are stronger identifications, the benefits to law enforcement and prosecutors, as well as to public safety, are increased, and we can be more confident that the right person is being prosecuted for the crime. In fact, with improved identification procedures, those in law enforcement can ensure that the quality of evidence they are collecting from eyewitnesses is higher than before. Prosecutors are also able to convey to jurors the steps taken to ensure accuracy, placing their evidence on a firm, scientific foundation. And when

identifications are better, prosecutions are stronger, and convictions are more solid. By avoiding wrongful convictions, we also avoid the costs of needlessly and unjustly imprisoning an innocent person, as well as the costs of restitution and, in some cases, expensive civil judgments against local governments.

### BENEFITS TO INNOCENT SUSPECTS

There can be no question that the conviction of the innocent is a profound injustice. By better protecting the innocent from wrongful conviction, we spare people the devastating ordeal of unjust incarceration that tears apart the families of innocent people and deprives them of their most fundamental liberties. To do justice to our respect for liberty, it is incumbent upon us to do all we can to enhance the accuracy of the criminal justice system.

### "LEGAL SAFEGUARDS"

The U.S. Supreme Court has identified five criteria for evaluating the accuracy of eyewitness evidence — "opportunity of witness to view criminal at time of crime, witness' degree of attention, accuracy of witness' prior description of the criminal, level of certainty demonstrated by witness at the confrontation, and length of time between the crime and the confrontation" (*Neil v. Biggers*, 1972). Unfortunately, although a witness's level of certainty or confidence in her identification is one of the most powerful factors judges and juries consider when assessing eyewitness accuracy, a witness's high level of confidence in an identification does not necessarily mean that the identification is more accurate. In fact, oftentimes the opposite is true.

A number of other procedural protections in place in the legal system to assist in protecting against inaccurate eyewitness evidence have also proven to be starkly inadequate. At last count, more than 75 percent of the nearly 200 wrongfully convicted individuals later exonerated by DNA evidence were convicted on the basis of one or more eyewitness identifications, all with the benefits of legal safeguards to protect against inaccurate identification testimony, such as motions to suppress, cross examination of eyewitnesses and the (limited) admissibility of expert testimony on eyewitness error. Thus, without improvement to the actual quality of the identification procedures themselves, the ability of the legal system to screen out unreliable eyewitness testimony is in grave doubt.

## COSTS OF IMPROVED LINEUP PROCEDURES

Reforming eyewitness identification procedures would incur relatively nominal monetary costs or expenditure of departmental time and resources. For example, instructing an eyewitness prior to the lineup, which has been shown to dramatically increase protections for innocent suspects, requires very little training and can be read from a script — it is simply a matter of a change in process. While more careful documentation of identification procedures may seem burdensome, the use of audio or video recording devices can make preservation of the record much easier at nominal cost.

While some costs may be incurred from implementing a “double-blind” procedure in terms of personnel, alternatives to using an additional officer to

“The costs of changing procedures are minimal when compared with the benefits. The costs are really a matter of some extra training for our officers. The benefits are stronger, more accurate eyewitness IDs that ultimately make it easier for police and prosecutors to do our jobs.”

**John Laux**

Chief of Police, Bloomington, Minnesota

administer the lineup can be implemented by using alternative presentation methods that achieve the same result. For example, computer programs that can generate a photo array, and present it to a witness in random order, are increasingly available. Other “low-tech” options include a “folder method,” in which the lineup administrator places photos in folders that are shuffled and presented to a witness such that the administrator cannot see the photos while the witness is studying them.<sup>29</sup>

When weighed against the tremendous costs to the taxpayer in terms of lawsuits and

compensation to the wrongfully convicted, as well as the very real costs in terms of human lives, the minimal procedural costs associated with these procedures are negligible. Ultimately, the benefits of implementation far outweigh the costs.

## PROFILES OF INJUSTICE

Evidence of a broken criminal justice system

### Calvin Johnson's Story

*Wrongfully convicted at age 25, Calvin Johnson received a life sentence for the rape of a Georgia woman. Four different women identified him. Exonerated in 1999, he walked out of prison a 41-year old man. The true rapist has never been found.*

On March 9, 1983, an African-American man entered the apartment of a 30-year old white woman through an unlocked door while she was sleeping in College Park, Georgia. The assailant tightened a belt around her neck until she passed out and then raped her. The victim told police that the attacker turned on the light and that she was able to get a good look at him. Two days earlier, a second woman in College Park had been raped in a remarkably similar

manner. College Park straddles the county line between suburban Clayton County and Atlanta's Fulton County. The March 9 attack occurred in Clayton County, and the March 7 rape occurred in Fulton.

### THE INVESTIGATION AND EYEWITNESSES

Authorities soon focused on 25-year-old Calvin C. Johnson, Jr., a college graduate recently released from prison for a 1981 burglary. He had readily confessed and pled guilty to the burglary of a College Park man's apartment, and served 20 months. While in jail on that charge, however, police came to suspect Johnson of a sexual assault that occurred the same night of the burglary.

While Johnson was in jail, one of the detectives who worked the burglary went to his cell with a

young white woman. He said they wanted to talk to him about other crimes in the neighborhood, but Johnson refused, telling him he didn't know about any other crimes.

Shortly thereafter, Johnson was charged with the 1981 rape—based on the young woman's identification of *his voice* during the brief jailhouse exchange with the detective. All the rape-related charges were dismissed, however, due to what the prosecutor later characterized as problems with the investigation.

Johnson's lawyer later learned that the victim, who had been forced to have oral sex during the attack, stated several times that her assailant was uncircumcised, a fact that clearly ruled out Johnson. When the College Park rapes occurred two years later, however, suspicions lingered, and Johnson quickly became the target of the investigation.

The same detective from the 1981 cases presented photo arrays, which included Johnson's picture, to both rape victims. The Clayton County victim picked Johnson, but the Fulton County victim picked out another man.

The investigators also showed the photo line-up to two other women who experienced incidents that may have been related to the rapes, as the incidents occurred in the same vicinity and around the same time period. One witness picked Johnson's photo as the man she discovered in her living room when she came out of the shower. The other witness identified his photo as the man who tried to enter her apartment.

The photo of Johnson used in the line-up was from his 1981 arrest, showing him clean-shaven. The perpetrator had been described as clean-shaven, or perhaps having some stubble. At the time of the attacks, however, Johnson had a full beard and moustache — a fact his boss and other witnesses corroborated.

Based on the photo line-ups, police arrested Johnson for rape on March 14, 1983. A search of his home turned up no physical evidence linking him to the crime, but prosecutors later claimed that a jacket of his was similar to one described by one of the victims.

An all-white jury took 45 minutes to find Johnson guilty. On the day of his conviction, he told the judge, "As God is my witness, you've got the wrong man."

Two days after the arrest, detectives arranged a live line-up that included Johnson. This time, with Johnson's lawyer present, the Clayton rape victim did not pick Johnson, but identified a "filler" instead. The two other women who had picked out his photo also failed to pick him out of the live line-up (one identified a filler and the other picked no one). The Fulton rape victim, however, did identify Johnson at the live line-up, though she had failed to identify him from the photo array.

One of the few pieces of physical evidence in the case was a pubic hair found on the Clayton rape victim's sheets. After comparing it with numerous hairs plucked from all over Johnson's body, the state's own forensic experts determined that the hair did not match Johnson. Prosecutors ordered another set of hairs collected from Johnson, but the results were the same—no match.

## THE TRIALS

Johnson went to trial for the Clayton County rape on November 2, 1983. Both rape victims identified him in court as their assailant, despite their inconsistent line-up performance.

The two other women who identified Johnson's photo but failed to pick him out of the live line-up also identified him in court as the man from their encounters. As the Fulton rape victim left the witness stand, she lunged at Johnson and cursed him in front of the jury.

Johnson's lawyer presented the testimony of four witnesses who supported his alibi. In addition to the inconsistencies in the photo and live line-up identifications, the defense highlighted the discrepancy between descriptions of a clean-shaven assailant and evidence that proved Johnson had a full beard at the time of the crimes.

The defense also called a state crime lab expert, who testified that the pubic hair found on the victim's bed could not have been Johnson's. The prosecutor argued that the hair must have gotten on the sheet at a public laundry.

After a three-day trial, an all-white jury took 45 minutes to find Johnson guilty. On the day of his

conviction, he told the judge, "As God is my witness, you've got the wrong man." Johnson received a sentence of life plus 15 years.

The following year, Johnson was brought to trial for the rape of the woman in Fulton County. This time, after hearing the same evidence from the same witnesses (plus his conviction for the Clayton County rape), a racially mixed jury unanimously acquitted him. Authorities had virtually no doubt that the same assailant committed both rapes, but the Fulton County acquittal had no effect on Johnson's life sentence.

During those 16 years, Johnson had several opportunities for parole, but the board rejected parole each time because he refused to formally admit guilt and participate in a sex offender program.

## THE EXONERATION

With the help of James Bonner, an attorney at the Prisoner Legal Counseling Project at the University of Georgia Law School, Johnson located the evidence from his trial, including a semen sample, though no state law at the time required that the biological evidence be preserved.

According to the prosecutor, when the trial judge retired, a court clerk threw out many old evidence boxes, but someone had pulled Johnson's evidence out of the trash bin and placed it back in storage. In 1994, Johnson wrote to the Innocence Project, and they agreed to take his case.

The Innocence Project arranged to have the remaining evidence sent to Dr. Edward Blake, the nation's foremost forensic DNA expert. Dr. Blake reported that the DNA testing positively excluded Johnson as the source of the semen collected in the rape kit.

Testing of the pubic hair recovered from the victim's sheet also excluded Johnson as the source of the hair, showing a match with the DNA from the rape kit.

On June 15, 1999, the state vacated Johnson's conviction, and Clayton County District Attorney Robert Keller, who had prosecuted the case 16 years earlier, agreed to drop all charges. The true perpetrator has never been found.

In 2000, the Georgia legislature awarded Johnson \$500,000 compensation for his wrongful imprisonment.

## John Willis' Story

*Misidentified by 11 different eyewitnesses for a pattern of crimes involving robbery and rape, John Willis spent over eight years in prison before missing forensic evidence was uncovered that conclusively exonerated him.*

Between December 1989 and September 1990, a man the media dubbed the "beauty shop rapist" terrorized the Chatham neighborhood on Chicago's south side.

In the first of a string of remarkably similar and unusual crimes, a man entered a beauty salon brandishing a pistol. He ordered the women in the shop to a back room, forced the women to undress, and robbed them of money and jewelry.

Four crimes of this pattern occurred in beauty shops, and in two of these incidents, on May 2 and September 7, 1990, the man sexually assaulted a female victim. A fifth crime following the pattern of the beauty shop incidents occurred in a store.

## THE INVESTIGATION AND EYEWITNESSES

With the help of multiple victim eyewitnesses, police produced and widely distributed a composite sketch.

On September 14, 1990, police arrested John Willis based on an anonymous tip. Though Willis, then 42, had a job cleaning up at a tavern, he had a criminal record of theft and was a self-described "career tire thief and gambler." Willis had no record of violent crime, however, and consistently and emphatically maintained his innocence.

Both of the victims of the sexual assaults identified Willis in photographic lineups as their attacker, as did most of the other witnesses from the salons. A total of 11 eyewitnesses identified Willis as the perpetrator.

## THE TRIALS

In 1992, Willis was tried separately for the two crimes that included rapes. In the first case, while no fingerprints or other physical evidence tied Willis to the crime, physical evidence had been col-

lected from the crime scene, including the perpetrator's semen.

The state's forensic analyst from the Chicago Crime Lab, Pamela Fish, testified that her analysis of semen from the crime scene was "inconclusive" — the tests could neither exclude Willis, nor identify him as the source of the semen. In the absence of conclusive forensic testimony, the jury relied entirely on multiple eyewitnesses who had picked Willis out of a lineup, including the rape victim. On February 13, 1992, a jury found Willis guilty, and he was sentenced to 45 years in prison.

While Willis was being held without bond awaiting trial, the string of rapes and robberies continued in Chatham, all following the same unusual pattern.

In April 1992, Chicago Police arrested Dennis McGruder for a string of five rapes and robberies that occurred between November 11, 1991 and March 21, 1992. McGruder pleaded guilty to five crimes that followed the identical pattern of the crimes for which Willis was arrested, including the rape for which he was convicted. One occurred in a beauty salon and four others in taverns.

In November 1993, Willis went to trial for the second rape, after McGruder was jailed for the latter five crimes. A jury again convicted Willis on the basis of identification testimony of the rape victim and other eyewitnesses, along with evidence of the previous rape conviction. Though McGruder had been charged with a string of remarkably similar crimes in the same neighborhood since Willis' arrest, Willis' jury never heard about McGruder.

In an effort to bolster the defense of mistaken identity, Willis' lawyers tried to introduce McGruder's photo into evidence (Willis and McGruder bear a substantial resemblance in their facial features, though Willis is several inches taller than McGruder and noticeably heavier). The prosecution successfully argued to the judge that the McGruder crimes were irrelevant to the case at hand.

At one point during this second trial, Willis became so upset that he tried to blurt out to the jury that the police had someone else in custody for these crimes,

waiving a newspaper clipping about the McGruder case in the air. The judge quickly silenced him.

At his sentencing hearing, eyewitnesses from the remaining three crimes with which Willis was charged testified against him. After he was sentenced to an additional 100 years, prosecutors dropped the remaining cases.

In 1997, Cook County Public Defender Greg O'Reilly, the office's leading forensic expert, was brought onto the case to help pursue DNA testing under a new post-conviction DNA statute. When Willis petitioned the court for testing, Assistant State's Attorney Earl Grinbarg, who prosecuted the Willis cases, declared, "John Willis absolutely, positively is the rapist." Nonetheless, Judge Thomas Fitzgerald ordered DNA testing. When O'Reilly sought access to the evidence, he was told that it was all unaccounted for.

An investigation established that Grinbarg had checked the evidence out of the Chicago police evidence room and had not returned the evidence that was not presented as an exhibit at trial, including the biological evidence. The missing evidence—some twenty pieces from three different locations—including swabs taken from the rape victims and a semen-stained toilet paper wrapper, any of which could have been tested for DNA.

Frustrated by the disappearance of the key physical evidence that would allow DNA testing, O'Reilly sought Fish's lab notes. He had been skeptical of her court testimony about inconclusive results and wondered why further testing had not been conducted.

Fish's notes contained evidence of Willis' innocence: they indicated that the blood type of the semen donor of the crime scene evidence was type A, different from Willis' type B. Willis could not have been the source of the crime scene semen.

Both of the victims of the sexual assaults identified Willis in photographic lineups as their attacker, as did most of the other witnesses from the salons. A total of 11 eyewitnesses identified Willis as the perpetrator.

## THE EXONERATION

In September 1998, Willis' lawyers were preparing to appeal based on suppression of the

blood-type exclusion and official misconduct. For 6 months, no biological evidence could be located. Nonetheless, a microscopic slide was eventually discovered in the prosecutor's manila folder among the Willis case files. The slide contained a tiny amount of semen from the first rape for which Willis was convicted.

DNA testing excluded John Willis—and identified Dennis McGruder as the true perpetrator. McGruder was by that time serving a 40 year sentence for the five armed robberies and sexual assaults that occurred after Willis' arrest.

Willis was released on February 24, 1999. He had lost eight and a half years in prison.

At a March 15, 1999 hearing, prosecutors formally dropped all charges against Willis. Thomas Fitzgerald, presiding judge of the criminal division of the Cook County Circuit Court, told Willis, "I wish to God it hadn't happened to you. I hope you can get back on track. And I hope you can live a life that gives you some personal satisfaction and happiness."

The City of Chicago and Cook County settled Willis' civil suit out of court for \$2.5 million. He also received \$100,000 from the State of Illinois.

## Larry Fuller's Story

*Larry Fuller spent over 18 years in prison, after being wrongfully convicted of aggravated rape as the result of an erroneous identification — despite the fact that he had a full beard at the time of the identification, which stood in stark contrast to the witness's memory of the perpetrator. Fuller was excluded as the rapist through advanced DNA testing methods, and Governor Rick Perry granted him a full pardon in January 2007.*

On the morning of April 26, 1981, a 37-year-old woman was attacked in her apartment in Dallas, Texas by a black man wielding a knife. He cut her several times, raped her, and then ran away. The victim was taken to the hospital, and a rape kit was collected. The attack occurred 45 minutes before sunrise, and the victim testified that it was dark in the room, although she was able to ascertain that the attacker was a black male "somewhere in his twenties" and that she had never seen him before. She also reported that she did not remember any facial hair on the attacker.

### THE INVESTIGATION AND EYEWITNESS

At the time of the April rape, Fuller was a decorated Vietnam War veteran raising two young children with his girlfriend while pursuing an education. While he had served three years for robbery after his return from Vietnam, Fuller had no record of sex crimes.

Nonetheless, investigators had obtained Fuller's photograph while investigating an incident that occurred three months earlier. In this previous inci-

dent, on the morning of January 19, 1981, another woman had been similarly raped, just a few buildings down from the victim of the April rape.

Fuller was stopped by police after the earlier attack because he matched the victim's description, but when his photograph was placed in a photo array, the victim positively stated that the photo array did not contain her attacker. Another man, Larry James Johnson, later confessed to the January crime and was arrested and prosecuted.

Two days after the April attack, police included Larry Fuller's picture in a photo array presented to the victim of the April attack. The victim failed to conclusively identify Fuller as her attacker, however, telling investigators Fuller "looks a lot like the guy" but she could not identify him. The investigating officer then issued a report recommending that the investigation be suspended because the victim "was unsure of the suspect at this time."

Five days after the first photo lineup, on May 3, 1981, police showed the victim a second photo array, this time with a more recent picture of Fuller, taken the same day. *Fuller's was the only photograph included in both photo arrays.*

This time, the victim positively identified Fuller, though she was confused by the fact that Fuller had a heavy and distinct beard. She had stated previously that she did not remember any facial hair on the attacker.

The victim later stated, "I looked at it, and I knew that was the face; but I couldn't figure out why there was facial hair because I didn't remember the facial hair . . . I looked at the picture again and I put my finger over the part, the hair, and then I could identify him."

## THE TRIAL

At trial, the prosecution relied on the eyewitness identification, stating that the victim “never wavered” in her identification, and the victim testified that she was certain Fuller was her attacker.

In addition, the prosecution introduced complex expert testimony on serological testing of semen from the rape kit collected from the victim. Though technology at the time did not allow for advanced DNA testing, the Southwestern Institute of Forensic Sciences did perform more basic tests on the semen evidence. A forensic serologist testified that Fuller could have been the source of the semen based on this testing, but it was inconclusive. The prosecution incorrectly argued that the semen evidence was consistent with Fuller’s to the exclusion of 80 percent of the population — a major exaggeration of the evidentiary value of the testing.

The defense called Fuller’s girlfriend, who testified Fuller was at their house at the time of the attack. Despite his alibi, on August 25, 1981, Fuller was convicted of aggravated rape after only 35 minutes of jury deliberation. He received a sentence of 50 years in prison on September 10, 1981.

## THE EXONERATION

Fuller wrote the Innocence Project in the mid 1990s, and they agreed to help him pursue more advanced DNA testing of the physical evidence. Meanwhile, in 1999, after having served 18 years of his sentence, Fuller was released on parole, but was sent back to prison in 2005 for a parole violation.

In November 2000, the Innocence Project located the biological evidence at Southwestern Institute

of Forensic Sciences and requested that the Dallas County District Attorney’s Office consent to post-conviction DNA testing. In March 2001, the Office refused, noting that the Texas legislature was considering a new DNA statute, and they wanted to wait for the statutory criteria.

In August 2001, the Innocence Project again requested testing under Texas’ new post-conviction DNA statute, but the state opposed testing. However, after a hearing in judicial court, the judge ordered that DNA testing be conducted by the Department of Public Safety (DPS).

Unfortunately, DPS was unable to obtain the profile of the male DNA on the vaginal slide, and in November 2004, the Innocence Project renewed its request to the District Attorney’s Office for more-developed DNA testing using another method. On April 14, 2006, the District Attorney’s Office agreed, and the Court ordered Y-STR testing at Orchid Cellmark, a private laboratory.

Having waited a quarter of a century, Fuller received unassailable proof of his innocence — Y-STR testing conclusively excluded him as the source of the semen.

At a hearing on October 31, 2006 in the 203rd Judicial District Court in Dallas, Judge Lana McDaniel released Fuller. Although not involved in the original case, the judge said she felt sick to her stomach over the time he spent in prison for a crime he did not commit.

On January 25, 2007, Fuller received a full pardon from Texas Governor Rick Perry. He was the tenth person from Dallas County to be exonerated by DNA evidence in the last five years.

# SNAPSHOTS OF SUCCESS

If it works in these states and jurisdictions, why not the rest of the country?

## NEW JERSEY

The first state in the nation to officially adopt the National Institute of Justice recommendations issued in 1999 (*Eyewitness Evidence: A Guide for Law Enforcement*), New Jersey provides an example of the successful implementation of reform protocols and their pragmatic effectiveness. While most law enforcement agencies or departments are controlled

locally, the Attorney General of New Jersey was able to mandate changes in procedure across the entire state due to the unique supervisory authority of the Attorney General in that state. Since April 2001, New Jersey has conducted double-blind, sequential lineups. In addition, police officers issue cautionary instructions, ensure that lineups are constructed effectively with an adequate number of appropriate

fillers, and document the identification procedures, including the witness's statement of certainty.

On July 31, 2006, the New Jersey Supreme Court, noting the importance of a complete record of an identification procedure in ensuring the reliability of eyewitness evidence presented to a jury, made complete documentation of the identification procedure a condition of admissibility of out-of-court identifications.<sup>30</sup> According to the opinion, “[G]iven the importance of ensuring the accuracy and integrity of out-of-court identifications, we will exercise our rulemaking authority to require . . . that the police record, to the extent feasible, the dialogue between witnesses and police during an identification procedure.” The decision was unanimous.

## NORTH CAROLINA

In November 2002, Justice I. Beverly Lake created the North Carolina Actual Innocence Commission to study and recommend potential strategies for lessening the incidence of wrongful convictions. The Commission issued recommendations for eyewitness identification in October 2003 and endorsed changes in procedures such as the delivery of cautionary instructions, documentation of a witness's confidence in the identification without any feedback given by the administrator, effective use of fillers (a minimum of eight photos in photo identification procedures and a minimum of six individuals in live identification procedures), and sequential double-blind presentation.<sup>31</sup>

While the Commission has no official authority over law enforcement agencies in the state, the Commission members include the North Carolina attorney general, district attorneys, police chiefs, Supreme Court Justices, and others. A number of North Carolina's law enforcement agencies are increasingly implementing the Commission's eyewitness recommendations to date.

## WISCONSIN

After studying the problem of mistaken identifications, the Training and Standards Bureau of the Wisconsin Department of Justice, working with the University of Wisconsin Law School's Frank J. Remington Center, developed a comprehensive set of eyewitness identification guidelines for law enforcement, which were adopted and distributed to law enforcement throughout the state in March 2005.<sup>32</sup> The guidelines — which include cautionary instruc-

tions to eyewitnesses, assessments of confidence immediately after identifications, proper selection of fillers, and double-blind, sequential presentation of lineups — represent a model for implementation of the “best practices” in eyewitness identification.

Legislation passed in November 2005 requires each law enforcement agency in the state to adopt policies or guidelines on eyewitness identification procedures. Though the model policy developed by the Attorney General is not mandatory, the Wisconsin Department of Justice has developed a training program to educate law enforcement across the state on the need for changes in procedure to lessen the risk of misidentification. Some departments have adopted the model policy, and more are likely to follow. To date, the program has trained over 800 investigators on the new procedures. Training on these procedures has also been incorporated into the curriculum for new investigators.<sup>33</sup>

## MINNESOTA

Beginning in 2003, Hennepin County Attorney Amy Klobuchar spearheaded an effort to implement a sequential, double-blind pilot program in four police departments in the state, including Minneapolis. A follow-up study analyzing the pilot found that the pilot project was relatively easy to implement, with projects up and running in the smaller counties in two weeks, and in the larger counties in under a month. The reforms incurred minimal costs, no perceived drop in suspect identifications, and a reduction in filler identifications.<sup>34</sup> The study showed increased protections against misidentification, practical benefits for investigators, and a higher quality of eyewitness evidence. As a result of the pilot, the Hennepin County Attorney urged adoption of the reform protocol county-wide.

## OTHER STATES

In 2003, the Illinois legislature passed legislation mandating cautionary instructions, as well as documentation and lineup composition requirements. In addition, a number of individual jurisdictions throughout the country have adopted reforms at the local level. These jurisdictions include the Boston Police Department and other departments in Suffolk County (in coordination with the Suffolk County District Attorney), Northampton, Massachusetts, Virginia Beach, Virginia and Santa Clara, California, among others.<sup>35</sup>



## VOICES OF SUPPORT

"I did see many flaws in witnesses who felt like they were trying to be people pleasers, felt they had to select someone. Now people are actually comparing the one photo in front of them to what's in their mind, not going through process of elimination."<sup>36</sup>

**Joy Rikala**

Chief of Police

Minnetonka Police Department

*Governing Magazine, May 2006*

"It is axiomatic that eyewitness identification evidence is often crucial in identifying perpetrators and exonerating the innocent. However, recent cases, in which DNA evidence has been utilized to exonerate individuals convicted almost exclusively on the basis of eyewitness identifications, demonstrate that this evidence is not fool-proof . . . While it is clear that current eyewitness identification procedures fully comport with federal and state constitutional requirements, the adoption of these Guidelines will enhance the accuracy and reliability of eyewitness identifications and will strengthen prosecutions in cases that rely heavily, or solely, on eyewitness evidence."<sup>37</sup>

**John J. Farmer, Jr.**

New Jersey Attorney General

*Memorandum, April 18, 2001*

"Every time you see something coming along that makes your job a little harder, you kind of cringe a little. It's going to take extra time and personnel, but if it's going to make a case a little more solid or if it's going to eliminate a bad identification or a situation where an officer may try to influence an identification, then it's beneficial."<sup>38</sup>

**John E. Miliano**

Chief of Police, Linden, New Jersey

*New York Times, July 21, 2001*

"If you don't do this, you risk having good convictions and good identifications thrown out."<sup>39</sup>

**David Angel**

Deputy District Attorney

Santa Clara County, California

*Pittsburgh Post-Gazette, May 9, 2005*

"We hadn't changed the way we do eyewitness procedures in decades . . . DNA [exonerations] obviously have shown us that we have to change."<sup>40</sup>

**Ken Patenaude**

Detective Lieutenant

Northampton, MA Police Department

*Pittsburgh Post-Gazette, May 9, 2005*

"The psychology behind these procedures is to have witnesses focus on their actual memory of the incident and the suspect. We want to eliminate any kind of extraneous influence or bias in the identification process."<sup>41</sup>

**Robert Olson**

Chief of Police, Minneapolis, Minnesota

*November 3, 2003*

"I will never forget the day I learned about the DNA results. I was standing in my kitchen when the detective and the district attorney visited. They were good and decent people who were trying to do their jobs — as I had done mine, as anyone would try to do the right thing. They told me: "Ronald Cotton didn't rape you. It was Bobby Poole." The man I was so sure I had never seen in my life was the man who was inches from my throat, who raped me, who hurt me, who took my spirit away, who robbed me of my soul. And the man I had identified so emphatically on so many occasions was absolutely innocent . . . If anything good can come out of what Ronald Cotton suffered because of my limitations as a human being, let it be an awareness of the fact that eyewitnesses can and do make mistakes."<sup>42</sup>

**Jennifer Thompson**

Victim/Activist for Eyewitness Identification Reform

*New York Times, June 18, 2000*

"God forbid that we would put an innocent person in jail because of a less than confident eyewitness. And then we would be allowing a guilty person to go out and commit more crimes."<sup>43</sup>

**William Mullen**

Chief Deputy Sheriff of Allegheny County and

Former Assistant Chief of Police, Pittsburgh, PA

*Associated Press, May 9, 2005*

## QUESTIONS & ANSWERS

**Why change our existing protocol, which has worked for years?**

Given the firm scientific basis for recommending the protocol, it is worth comparing these justifications with the current standard protocol. The standard way of conducting lineups today is not rooted in careful science. Rather, it was developed as an *ad hoc* procedure created and embraced in the law enforcement community because of its intuitive plausibility. Nothing more recommends or justifies it than tradition.

Nonetheless, eyewitness memory science has established that many factors related to eyewitness memory that seem intuitive and obvious are not necessarily true. For example, a witness's confidence in an identification is not a reliable predictor of accuracy. This is counter-intuitive, but the lack of a close correlation has been very well documented. Traditional methods need to be updated and procedures modernized to catch up with our modern understanding of eyewitness memory issues.

While no one can deny that many guilty people have been convicted based on evidence obtained with the traditional protocol, we have witnessed far too many innocent people convicted based on incorrect eyewitness testimony and later exonerated by DNA testing. The result — investigations led off course and prematurely ended, allowing predators to go uninvestigated and unpunished. It is incumbent upon us to live up to our commitment to public safety and base our procedures on the best science, not tradition.

**Why haven't we heard of the research or improved procedures before?**

It is not surprising that many people in law enforcement are unfamiliar with this scientific research. Police officers typically do not read technical peer reviewed academic journals (who could blame them?) or attend conferences about experimental psychology. Increasingly, however, opportunities have been created to foster a dialog, and many law enforcement agencies have modernized procedures based on the science. Only in recent years, upon the dawning of the age of DNA, have people begun to appreciate the problem of mistaken eyewitness identification, leading people in all aspects of the criminal justice system to look more carefully at ways of enhancing accuracy and putting higher quality evidence into the courtroom.

**Isn't the blind administration component an insult to the integrity and professionalism of detectives?**

Requiring a neutral administrator is NOT about challenging the integrity or professionalism of law enforcement personnel. Structuring procedures to generate the best quality of evidence is what professionalism demands. The issues addressed here have nothing to do with suggestions of misconduct. Rather, they address certain realities about normal human psychology and the possibility of the *inadvertent* cuing of a witness. All manner of verbal and non-verbal human behaviors may have the *unintended* effect of influencing a witness. Using a neutral administrator eliminates this possibility and ensures the best quality of evidence.

Just as in double-blind clinical drug trials, we are not assuming doctors and medical researchers are nefarious and dishonest; requiring neutral administrators is simply good practice — especially with such important matters as liberty and public safety on the line.

**The courts don't seem to have any problems with the standard procedures, so why change?**

The courts have increasingly begun to recognize that many of our traditional assumptions about eyewitness memory are wrong (such as the link between certainty and accuracy). Exonerations have made clear the need for change (and the terrible human costs of persisting with traditional practices), and developments in eyewitness memory science have identified ways of enhancing accuracy through more carefully designed procedures. Because the state of the science is now very solid, courts have often been more willing to allow challenges to existing protocols. Rather than picking apart in-court identifications that follow from flawed procedures, it is in the best interest of all parties to implement best practices that guarantee the best quality of evidence at the outset, on the front end of the process. Some courts have already ordered new procedures on that basis.

**Why should we care about experiments with "staged crimes" and "mock witnesses"?**

Experimental psychologists carefully design their experiments to isolate certain phenomena so that they may be better observed and understood in ways that

'real world' observation does not allow. These methods are the only way to fully control the different variables and track their changes under different conditions. In actual cases, for example, we cannot otherwise be completely certain whether an identified suspect is, in fact, the perpetrator the way we can in experiments.

While the experiments have created a solid basis for the various elements of the protocol, we know from real world applications (statewide in New Jersey, as well as in many other individual jurisdictions) that

the system is practical and pragmatically workable. There is already a track record of real world success.

### Is the protocol practically feasible, especially for some smaller departments?

Experience in other jurisdictions across the country shows that the protocol is practical and workable. The protocol is sensitive to the potential problem of finding a neutral administrator, and provides for alternatives that accomplish the same goals.

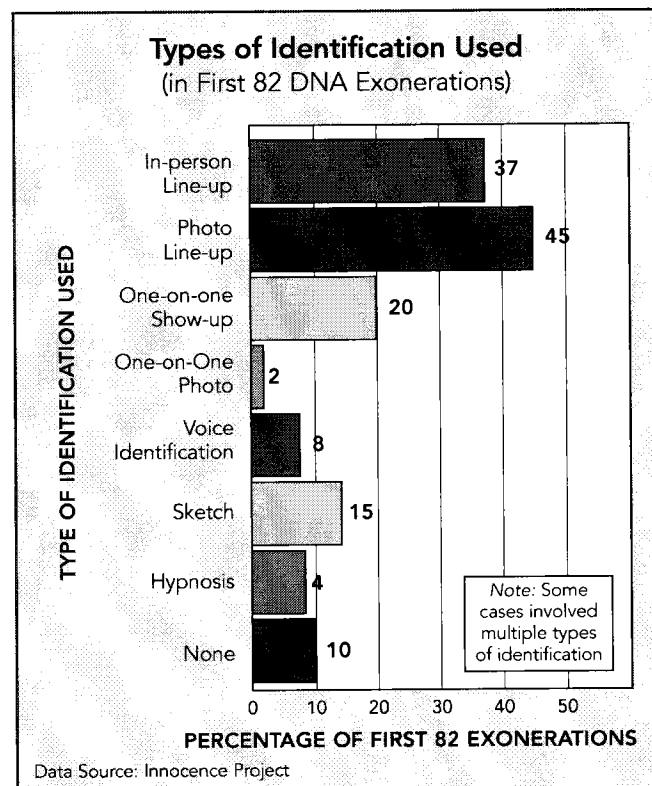
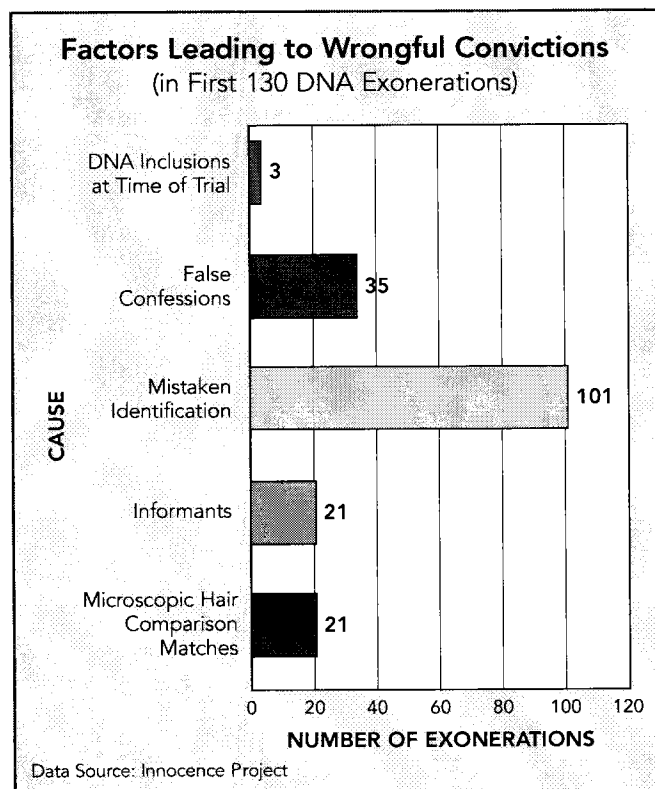
## STATISTICS

The Innocence Project found that mistaken eyewitness identifications were the leading cause of the first 130 DNA exonerations, accounting for 101 of the total. A subsequent study by the Innocence Project found that over 75 percent of the now nearly 200 post-conviction DNA exonerations in the U.S. involve mistaken eyewitness identification testimony, making it the leading cause of these wrongful convictions.

In addition, the Center on Wrongful Convictions at Northwestern University School of Law also studied the

cases of 86 defendants who had been sentenced to death but legally exonerated based on strong claims of actual innocence, finding that eyewitness testimony played a role in the convictions of 54 percent of the death-sentenced defendants. Eyewitness testimony was the only evidence used against 38 percent of the defendants.

The Innocence Project also found that photo lineups were the most oft-used identification method in the first 82 DNA exonerations. Investigators used a photo lineup in 45 percent of the cases.



# A MODEL POLICY

## AN ACT CONCERNING EYEWITNESS IDENTIFICATION PROCEDURES

WHEREAS the goal of a police investigation is to accurately identify and apprehend the true perpetrators of crimes; and

WHEREAS eyewitness error is the leading cause of mistaken convictions; and

WHEREAS cases of mistaken conviction in [insert jurisdiction] owing to eyewitness misidentification have resulted in the actual perpetrators remaining free to commit more crimes; and

WHEREAS scientific studies of eyewitness memory have demonstrated that eyewitness evidence is, like trace physical evidence, susceptible to contamination if not handled properly; and

WHEREAS well-intentioned witnesses and authorities acting in good faith may sometimes inadvertently undermine the accuracy of an identification procedure unless appropriate safeguards are in place; and

WHEREAS extensive scientific research has shown that modified methods of conducting identification procedures greatly enhance accuracy;

We hereby enact the following

### EYEWITNESS ACCURACY ENHANCEMENT ACT:

Section 1: Definitions. For purposes of this section the following definitions apply:

- 1) Photo Lineup: a selected group of photographs of persons presented to an eyewitness to a crime, containing a single suspect and several fillers, for the purpose of determining whether the eyewitness is able to identify the suspect as the perpetrator.
- 2) Live Lineup: A selected group of persons presented to an eyewitness to a crime containing a suspect and several fillers for the purpose of determining whether the eyewitness is able to identify the suspect as the perpetrator.
- 3) Suspect: A person under investigation for participation in a crime.
- 4) Filler: A person, not a suspect in the crime under investigation, not known to the witness, who is made part of a live lineup; or a photograph of a person, not a suspect in the crime under investigation, not known to the witness, made part of a photo lineup and presented to a witness.
- 5) Neutral Blind Administrator: A person who conducts photo or live lineup procedures while unaware of which person in the lineup is the suspect and which are fillers.

Section 2: Development and Dissemination of Eyewitness Identification Protocol. Prior to [insert date] the [insert jurisdiction] Attorney General shall consult with law enforcement and scientific experts in eyewitness memory to develop, adopt, and disseminate to all law enforcement jurisdictions in the state comprehensive, written policies and procedures and associated training materials for [insert jurisdiction] law enforcement agencies regarding photo and live lineup eyewitness identification procedures that implement the requirements set forth in section 3 of this act.

### Section 3: Requirements for Photo and Live Line-up Identification Procedures.

For any offense alleged to have been committed on or after [insert date], all photo and live lineup identification procedures conducted by law enforcement officers shall be administered pursuant to the procedures developed by the Attorney General described in section 2 of this act and consistent with the requirements in this section.

A. Witness Instructions. Prior to presenting a live lineup or photo array identification procedure, the lineup administrator shall instruct the witness that:

- 1) The procedure is intended to identify guilty parties as well as to clear innocent suspects from suspicion;
- 2) The witness should not guess or conclude that the perpetrator is among the persons in the lineup;
- 3) The witness should not feel compelled to make an identification because the perpetrator may or may not be among those shown;
- 4) The person administering the lineup may not be aware of which person in the lineup is the suspect;
- 5) Individuals depicted in lineup photos may not appear exactly as they did on the date of the incident because features such as head and facial hair are subject to change;
- 6) The police will continue to investigate the incident whether or not the witness identifies someone.

B. Documentation of Identification Procedures.

- 1) All photo and live lineup identification procedures conducted in connection with a criminal investigation shall be documented, regardless of whether an identification is made, made a part of the case record, and provided to the prosecuting authority in the event any prosecution related to the crime being investigated occurs. The documentation shall include:
  - a. The time, date, location and identities of all persons present;
  - b. A form listing the instructions enumerated in section A. of this act signed by the witness to confirm understanding of the instructions prior to administration of the identification procedure;
  - c. A photograph of any live lineup as presented to a witness; or all photographs used in any photo lineup preserved in their original condition;
  - d. The order of presentation of photographs or individuals.
- 2) All comments and exchanges during an identification procedure shall be electronically recorded with audio or audio/video recording equipment whenever possible. When it is not feasible to electronically record the identification procedure, comments and exchanges among persons present during an identification procedure shall be documented in writing, and an explanation of why electronic recording was not feasible shall be included in the record. The documentation, whether electronic or written, shall include all witness comments, using the witness's own words, regarding the persons or photos in the lineup and all questions and commentary by the lineup administrator and any other persons present during the identification procedure.
- 3) If the witness makes an identification as a result of a photo or live lineup, the lineup administrator shall immediately ask the witness to state in his or her own words how confident he or she is that

the person identified is the perpetrator, and make the witness's words part of the record prior to any commentary or feedback from the lineup administrator or any other persons present.

- 4) If no electronic recording of the identification procedure is made, the witness shall review and sign the written record of the identification procedure, including all comments regarding the persons or photos presented, and any statements regarding an identification and degree of certainty, prior to any feedback or communication of information from the administrator or others involved in the investigation regarding the identification procedure.

#### C. General requirements for composition and conduct of lineup identification procedures

- 1) During the identification procedure, the administrator shall refrain from any commentary or feedback to the witness regarding particular persons or photographs in a lineup until after the procedure is concluded and the witness certifies the record of the procedure.
- 2) At least five fillers shall be included in a photo lineup, in addition to the suspect, and at least four fillers shall be included in a live lineup, in addition to the suspect.
- 3) Only one member of a photo or live lineup shall be a suspect, and the remainder shall be fillers who are not suspects.
- 4) Fillers shall be selected who generally fit the witness's description of the perpetrator. When there is a limited or inadequate description of the perpetrator provided by the witness, or when the description of the perpetrator differs significantly from the appearance of the suspect, fillers should resemble the suspect in significant features.
- 5) Lineup administrators shall create a consistent appearance between the suspect and fillers with respect to any unique or unusual feature such as scars or tattoos used to describe the perpetrator by artificially adding or concealing that feature in filler photographs.
- 6) In photo line-ups, the suspect's photo should resemble his or her appearance at the time of the offense and not unduly stand out.
- 7) If the eyewitness has previously viewed a photo lineup or live lineup in connection with the investigation of another person suspected of involvement in the offense, the fillers in the lineup in which the suspected perpetrator participates shall be different from the fillers used in any prior lineups.
- 8) Law enforcement shall seek identification of any particular suspect through photo or live lineup only once from any given witness.
- 9) In a photo lineup, no writings or information concerning any previous arrest, indictment, or conviction of the suspected perpetrator shall be visible or made known to the eyewitness.
- 10) The position of the suspect in a photo or live lineup should be changed for each new witness to view the photo lineup.
- 11) In a live lineup, any identifying actions, such as speech, gestures, or other movements, shall be performed by all lineup participants.
- 12) In a live lineup, witnesses shall not be exposed to the members of the lineup before the procedure begins.

#### D. Neutral Blind Administration of Photo and Live Line-ups

- 1) Whenever possible, the administrator of photo or live lineup identification procedures shall be someone who is not aware of which member of the lineup is the suspect in the case and which

are fillers, and no person familiar with the identity of the suspect shall be present during the identification procedure.

- 2) When it is not feasible to have the procedure administered by someone unaware of which person is the suspect, that reason shall be documented, and a photo lineup procedure may be conducted using an alternative method specified and approved by the Attorney General. Any alternative procedure shall be structured to achieve neutral blind administration and prevent the administrator from viewing the lineup simultaneously with the witness or knowing the order of photographs as presented to the witness during the identification procedure. Alternative methods may include the following:
  - i. automated computer programs approved by the Attorney General for such use that can automatically administer the lineup identification procedure directly to a witness, and during which the administrator cannot see which photo the witness is viewing until after the procedure is completed; or, alternatively,
  - ii. a procedure approved by the Attorney General in which photographs are placed in folders, randomly numbered and shuffled, and then presented to a witness such that the administrator cannot see or determine the order of photograph being presented to the witness until after the procedure is completed; or, alternatively,
  - iii. other such procedures as specified by the Attorney General which achieve neutral blind administration.

*Note:* Due to a lack of comprehensive data from pilot studies, the above model does not include a provision regarding sequential procedure. Nonetheless, researchers are currently pairing with other jurisdictions to add to the credible literature on the topic. While some questions have been raised about the value of sequential presentation, on balance most experts believe that it has proven to be superior in both experimental research and in the field. Thus, jurisdictions may also want to consider the addition of the sequential procedure, if and only if, neutral-blind administration is employed. In that event, the following provision may be inserted in the above model:

#### E. Sequential Procedure.

- 1) Live line-up and photo array identification procedures shall be presented to witnesses using a sequential method, in which a witness is shown photographs or live lineup participants one at a time, and not simultaneously. The witness shall be asked to state for each person whether the individual shown is the perpetrator, prior to viewing the next lineup participant.
- 2) The administrator shall not offer any comment or feedback to the witness regarding the witness's responses.
- 3) If there are multiple eyewitnesses, witnesses shall be presented with the identification procedure separately, and the suspect shall be placed in a different position in the lineup for each eyewitness.
- 4) Under no circumstances shall a sequential presentation be used unless the procedure complies fully with neutral blind administration specified in section D.

# LITERATURE

## SUGGESTED READINGS

The following materials are essential reading for individuals interested in improving eyewitness identification procedures.

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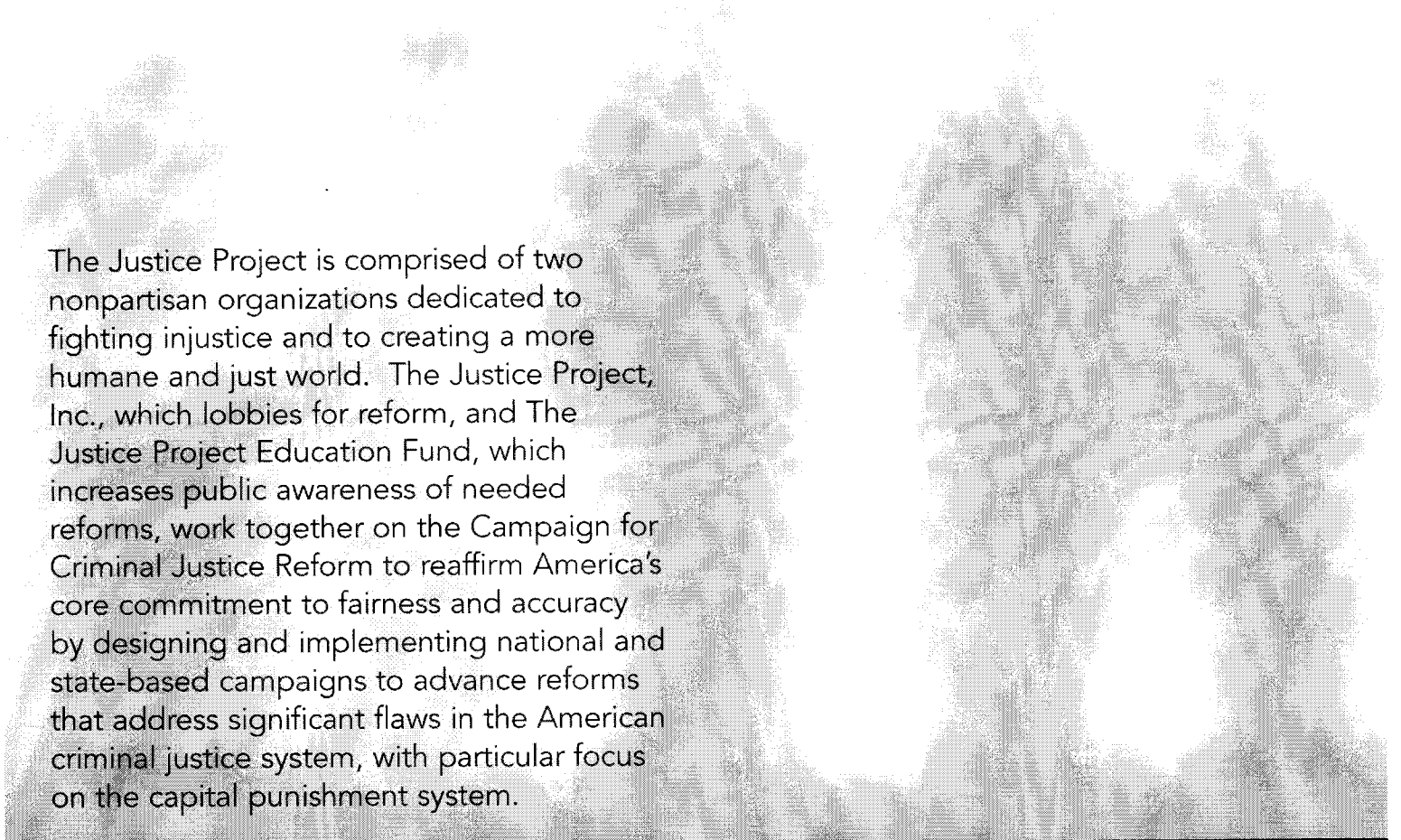
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The Justice Project is comprised of two nonpartisan organizations dedicated to fighting injustice and to creating a more humane and just world. The Justice Project, Inc., which lobbies for reform, and The Justice Project Education Fund, which increases public awareness of needed reforms, work together on the Campaign for Criminal Justice Reform to reaffirm America's core commitment to fairness and accuracy by designing and implementing national and state-based campaigns to advance reforms that address significant flaws in the American criminal justice system, with particular focus on the capital punishment system.

This report is made possible primarily through a grant from The Pew Charitable Trusts to The Justice Project Education Fund. The opinions expressed are those of the author(s) and do not necessarily reflect the views of the Trusts. For additional information, questions or comments, please contact our offices at (202) 638-5855, or email [info@thejusticeproject.org](mailto:info@thejusticeproject.org).

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# **E**

## **Innocence Project Material on Eyewitness Identification**

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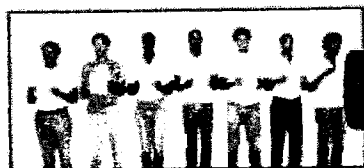
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Produced by the Innocence Project  
and Brandon Garrett, author of "Convicting the Innocent"

Eyewitness misidentification is the single greatest cause of wrongful convictions nationwide, playing a role in more than 75% of convictions overturned through DNA testing.

While eyewitness testimony can be persuasive evidence before a judge or jury, 30 years of strong social science research has proven that eyewitness identification is often unreliable. Research shows that the human mind is not like a tape recorder; we neither record events exactly as we see them, nor recall them like a tape that has been rewound. Instead, witness memory is like any other evidence at a crime scene; it must be preserved carefully and retrieved methodically, or it can be contaminated.

**When witnesses get it wrong**

In case after case, DNA has proven what scientists already know — that eyewitness identification is frequently inaccurate. In the wrongful convictions caused by eyewitness misidentification, the circumstances varied, but judges and juries all relied on testimony that could have been more accurate if reforms proven by science had been implemented. The Innocence Project has worked on cases in which:

- A witness made an identification in a “show-up” procedure from the back of a police car hundreds of feet away from the suspect in a poorly lit parking lot in the middle of the night.
- A witness in a rape case was shown a photo array where only one photo of the person police suspected was the perpetrator was marked with an “R.”
- Witnesses substantially changed their description of a perpetrator (including key information such as height, weight and presence of facial hair) after they learned more about a particular suspect.
- Witnesses only made an identification after multiple photo arrays or lineups — and then made hesitant identifications (saying they “thought” the person “might be” the perpetrator, for example), but at trial the jury was told the witnesses did not waver in identifying the suspect.

### **Variables impacting accuracy of identifications**

Leading social science researchers identify two main categories of variables affecting eyewitness identification: estimator variables and system variables.

**Estimator variables** are those that cannot be controlled by the criminal justice system. They include simple factors like the lighting when the crime took place or the distance from which the witness saw the perpetrator. Estimator variables also include more complex factors, including race (identifications have proven to be less accurate when witnesses are identifying perpetrators of a different race), the presence of a weapon during a crime and the degree of stress or trauma a witness experienced while seeing the perpetrator.

**System variables** are those that the criminal justice system can and should control. They include all of the ways that law enforcement agencies retrieve and record witness memory, such as lineups, photo arrays and other identification procedures. System variables that substantially impact the accuracy of identifications include the type of lineup used, the selection of “fillers” (or members of a lineup or photo array who are not the actual suspect), blind administration, instructions to witnesses before identification procedures, administration of lineups or photo arrays, and communication with witnesses after they make an identification.

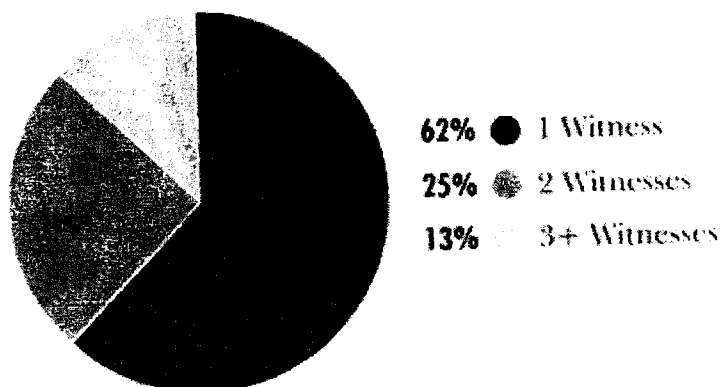
Click here to learn about reforms the Innocence Project strongly recommends for individual law enforcement agencies and state legislatures.

### **Decades of solid scientific evidence supports reform**

As far back as the late 1800s, experts have known that eyewitness identification is all-too-susceptible to error, and that scientific study should guide reforms for identification procedures. In 1907, Hugo Munsterberg published “On the Witness Stand,” in which he questioned the reliability of eyewitness identification. When Yale law professor Edwin Borchard studied 65 wrongful convictions for his pioneering 1932 book, “Convicting the Innocent,” he found that eyewitness misidentification was the leading cause of wrongful convictions.

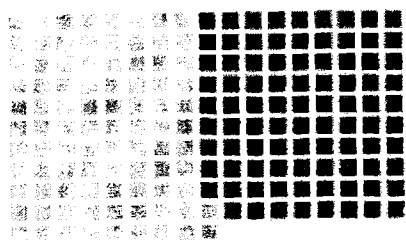
Since then, hundreds of scientific studies (particularly in the last three decades) have affirmed that eyewitness identification is often inaccurate — and that it can be made more accurate by implementing specific identification reforms.

**Number of witnesses misidentifying  
the same innocent defendant**  
(based on 175 eyewitness misidentification cases  
in the first 239 DNA exonerations)



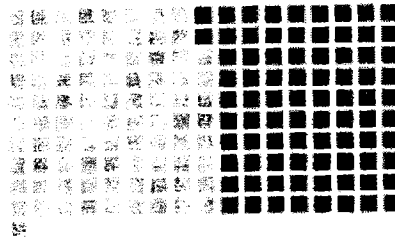


## Eyewitness misidentification as the central cause (based on 179 eyewitness misidentification cases in the first 239 DNA exonerations)



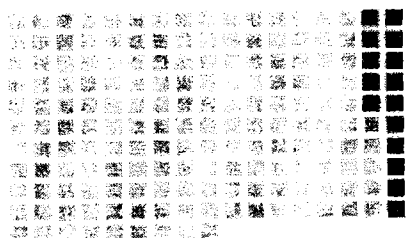
50%

just misidentification



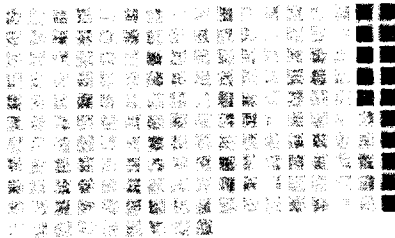
48%

with unvalidated or  
improper forensic science



8%

with false confession  
or admission

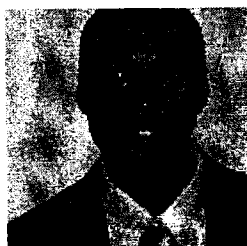


8%

with informant testimony

The percentages will not add up to 100 because more than one cause  
may contribute to a wrongful conviction in any given case.

### Featured Case: Calvin Willis



One night in 1982, three young girls were sleeping alone in a Shreveport, Louisiana home when a man in cowboy boots came into the house and raped the oldest girl, who was 10 years old. When police started to investigate the rape, the three girls all remembered the attack differently. One police report said the 10-year-old victim didn't see her attacker's face. Another report — which wasn't introduced at trial — said she identified Calvin Willis, who lived in the neighborhood. The girl's mother testified at trial that neighbors had mentioned Willis's name when discussing who might have committed the crime. The victim testified that she was shown photos and told to pick

the man without a full beard. She testified that she didn't pick anyone, police said she picked Willis. Willis was convicted by a jury and sentenced to life in prison. In 2003, DNA testing proved Willis' innocence and he was released. He had served nearly 22 years in prison for a crime he didn't commit.

[Click here to read more about Willis' case.](#)

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## Eyewitness Identification

The most common element in all wrongful convictions later overturned by DNA evidence has been eyewitness misidentification. Misleading lineup methods have been used for decades without serious scrutiny. Now is the time for change.

Despite solid proof of the inaccuracy of traditional methods – and the availability of simple measures to reform them – eyewitness IDs remain among the most common and compelling evidence brought against criminal defendants.

Misidentifications don't only threaten the innocent, they also derail investigations. While police focus on finding evidence against an innocent person, the perpetrator can get away.

### How the wrong person gets picked

Most law enforcement agencies use the same methods they have used for decades – live and photo lineups, usually conducted without a blind administrator or proper instructions. It is stressful for victims and eyewitnesses to identify a perpetrator, and they make mistakes.

Sometimes these mistakes are triggered by a gap in memory or the desire to make an identification at all costs. In other cases, subtle cues by police – intentional or not – lead to a false identification. Almost all of these mistakes are preventable.

### Time for reform

Several easy-to-implement procedures have been proven to significantly decrease the number of misidentifications. However, acceptance of these changes has been slow. The Innocence Project recommends that all jurisdictions immediately adopt the following policies:

- **Blind administration:** Research and experience have shown that the risk of misidentification is sharply reduced if the police officer administering a photo or live lineup is not aware of who the suspect is.
- **Lineup composition:** "Fillers" (the non-suspects included in a lineup) should resemble the eyewitness' description of the perpetrator. The suspect should not stand out (for example, he should not be the only member of his race in the lineup, or the only one with facial hair). Eyewitnesses should not view multiple lineups with the same suspect.
- **Instructions:** The person viewing a lineup should be told that the perpetrator may not be in the lineup and that the investigation will continue regardless of the lineup result. They should also be told not to look to the administrator for guidance.
- **Confidence statements:** Immediately following the lineup procedure, the eyewitness should provide a statement, in his own words, articulating his the level of confidence in the identification.
- **Recording:** Identification procedures should be videotaped whenever possible – this protects innocent suspects from any misconduct by the lineup administrator, and it helps the prosecution by showing a jury that the procedure

was legitimate.

Jurisdictions should also consider adopting **sequential presentation of lineups**: Research has shown that presenting lineup members one-by-one (sequential), rather than all at once (simultaneous), decreases the rate at which innocent people are identified. Research has also demonstrated that when viewing several subjects at once, witnesses tend to choose the person who looks the most like – but may not actually be – the perpetrator. Click here for a more thorough discussion of why the Innocence Project separately supports sequential presentations.

#### **Reforms at work**

Changes recommended by National Institute of Justice, the Innocence Project and others have proven to be successful. New Jersey, North Carolina, Wisconsin and several large cities have implemented new procedures and improved the quality of their identifications. Following are examples of reforms that several jurisdictions have made:

- State of Wisconsin (.pdf)
- State of New Jersey (.pdf)
- State of North Carolina (.pdf)
- Northampton, MA (.pdf)
- Suffolk County, MA (Boston) (.pdf)
- Santa Clara County, CA (.pdf)

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## Sequential Presentation of Lineups

The Innocence Project endorses as a reform the sequential – as opposed to simultaneous – presentation of lineup members to the witness. This endorsement is based on both scientific research and “real world” experience of jurisdictions that use sequential presentation.

A large body of peer-reviewed research conducted over the last 20 years demonstrates that sequential presentation, when coupled with a “blind” administrator, greatly minimizes the likelihood of incorrect identifications. An increasing number of jurisdictions across the country are using this practice and find it highly effective in improving the accuracy and reliability of eyewitness identifications.

But some jurisdictions remain resistant because the research shows that sequential presentations lead to fewer overall identifications. (In short, research shows that sequential/blind presentations decrease both correct and incorrect identifications. However, the research clearly shows that incorrect identifications are reduced much more substantially than correct identifications.) Sequential presentation is one among several elements of reform in eyewitness identification procedures, but disputes about the ultimate value of sequential have often prevented clear consideration of the other important and accepted reforms; these disputes have led to political defeat of reforms that are proven to increase the accuracy of eyewitness identifications.

To ensure that critical eyewitness identification reforms that can prevent wrongful convictions are not blocked because of concerns about sequential presentation, the Innocence Project has refrained from including sequential in its current eyewitness identification reform package. The Innocence Project continues to provide all interested parties with substantial information on the scientific research about sequential presentation and the experiences of jurisdictions that are effectively using the practice, including studies, protocol, law enforcement references, and other information.

To help address concerns about the benefits of sequential lineup presentations, the Innocence Project, in collaboration with other interested parties and specific jurisdictions, is supporting field studies of sequential lineup procedures which employ the use of laptop computers and use solid scientific methodology. We hope this research will further clarify the benefits of employing sequential lineups in actual practice and resolve any lingering questions.

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