SYLLABUS

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State v. Larry R. Henderson (A-8-08)(062218)

[NOTE: This is a companion case to State v. Cecelia X. Chen, also filed today.]

Argued January 20, 2009 -- Reargued March 28, 2011 -- Decided August 24, 2011

RABNER, C.J., writing for a unanimous Court.

In this appeal the Court considers the viability of the current legal standard for analyzing the reliability of eyewitness identifications.

Rodney Harper was shot to death in a Camden apartment early in the morning on January 1, 2003. James Womble was present when two men forcefully entered the apartment, seeking to collect money from Harper. Womble knew one of the men, co-defendant, George Clark, but the other man was a stranger. According to the State's evidence, Clark shot Harper while the stranger held a gun on Womble in a small, dark hallway. Thirteen days later, police showed Womble a photo array from which he identified defendant as the stranger. That identification lies at the heart of this decision.

The trial court conducted a pre-trial Wade hearing to determine the admissibility of Womble's identification of defendant. That hearing revealed that the identification procedure was presided over by a detective who was not a primary investigator in the case. Nonetheless, when Womble was unable to make a final identification, the two investigating officers intervened and encouraged him to "do what you have to do and we'll be out of here." Womble followed by identifying defendant. Womble never recanted the identification, but during the Wade hearing he testified that he felt as though Detective Weber was "nudging" him to choose defendant's photo, and that there was pressure to make a choice.

At the conclusion of the hearing, the trial court found that the officers' behavior was not impermissibly suggestive and ruled that evidence of the identification was admissible. The trial court applied the two-part Manson/Madison test to evaluate the admissibility of the eyewitness identification. See Manson v. Brathwaite, 432 U.S. 98, 97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977); State v. Madison, 109 N.J. 223 (1998). The test requires courts to determine first if police identification procedures were impermissibly suggestive; if so, courts then weigh five reliability factors to decide if the identification evidence is nonetheless admissible. The court found that there was "nothing in this case that was improper, and certainly nothing that was so suggestive as to result in a substantial likelihood of misidentification at all." The court also noted that Womble displayed no doubts about his identification, that he had the opportunity to view defendant at the crime scene, and that Womble fixed his attention on defendant "because he had a gun on him."

At trial, additional evidence relevant to Womble's identification was adduced. This included Womble's testimony about his ingestion of crack cocaine and alcohol on the night of the shooting; that the lighting was dark in the hallway where Womble and defendant interacted; and that Womble remembered looking at the gun pointed at his chest. Womble also admitted that he smoked about two bags of crack cocaine each day from the time of the shooting until speaking with police ten days later. Womble also testified that when he first looked at the photo array, he did not see anyone he recognized. To make a final identification, Womble said that he "really had to search deep." He was nonetheless "sure" of his identification. Womble identified defendant from the witness stand.

Neither Clark nor defendant testified at trial. The primary evidence against defendant was Womble's identification and the detective's testimony about defendant's post-arrest statement. At the close of trial, the court relied on the existing model jury charge on eyewitness identification. Defendant did not object to the charge. The jury acquitted defendant of murder and aggravated manslaughter charges, and convicted him of reckless manslaughter, aggravated assault, and weapons charges. He was sentenced to an aggregate eleven-year term subject

to a parole ineligibility period of almost six years.

The Appellate Division reversed, presuming that the identification procedure in this case was impermissibly suggestive under the first prong of the Manson/Madison test. The court remanded for a new Wade hearing to determine whether the identification was nonetheless reliable under the test's second prong. The panel anchored its finding to what it considered to be a material breach of the Attorney General Guidelines for Preparing and Conducting Photo and Live Lineup Identification Procedures. Among other things, the Guidelines require that "whenever practical, the person conducting the photographic identification procedure should be someone other than the primary investigator assigned to the case." The panel found that the investigating officers "consciously and deliberately intruded into the process for the purpose of assisting or influencing Womble's identification of defendant." In such circumstances, the panel "conclude[d] that a presumption of impermissible suggestiveness must be imposed, and a new Wade hearing conducted."

The Supreme Court granted the State's petition for certification, 195 N.J. 521 (2008), and also granted leave to appear as amicus curiae to the Association of Criminal Defense Lawyers of New Jersey and the Innocence Project. In their briefs and oral argument, the parties and amici raised questions about possible shortcomings in the Manson/Madison test in light of recent scientific research. The Supreme Court remanded the case and appointed the Honorable Geoffrey Gaulkin, P.J.A.D. (retired and temporarily assigned on recall) to preside at the remand hearing as a Special Master to evaluate the scientific and other evidence about eyewitness identifications. The Special Master presided over a hearing that probed testimony by seven experts and produced more than 2,000 pages of transcripts along with hundreds of scientific studies. The Special Master later issued an extensive and very fine report, much of which the Court adopts.

HELD: The current legal standard for assessing eyewitness identification evidence must be revised because it does not offer an adequate measure for reliability; does not sufficiently deter inappropriate police conduct; and overstates the jury's ability to evaluate identification evidence. Two modifications to the standard are required. First, when defendants can show some evidence of suggestiveness, all relevant system and estimator variables should be explored at pretrial hearings. Second, the court system must develop enhanced jury charges on eyewitness identification for trial judges to use. Defendant is entitled to a new pretrial hearing consistent with this opinion to determine the admissibility of the eyewitness evidence introduced at his trial.

1. This Court previously has observed that eyewitness "[m]isidentification is widely recognized as the single greatest cause of wrongful convictions in this country." Most misidentifications stem from the fact that human memory is malleable; they are not the result of malice. An array of variables can affect and dilute eyewitness memory. The recent scientific studies that were examined in this record prove that the possibility of mistaken identification is real, and the consequences severe. (pp. 23-34)

2. The current standards for determining the admissibility of eyewitness identification evidence derive from the principles the United States Supreme Court set forth in Manson in 1977. New Jersey formally adopted Manson's framework in Madison. The Manson/Madison test entails a two step process. First, the court must decide whether the identification procedure in question was in fact impermissibly suggestive. If the court does find the procedure impermissibly suggestive, it must then decide whether the objectionable procedure resulted in a "very substantial likelihood of irreparable misidentification." In carrying out the second part of the analysis, the court will focus on the reliability of the identification. (pp. 34-40)

3. Virtually all of the scientific evidence considered on remand emerged after Manson. Most research is conducted through controlled lab experiments. Research that has emerged in the years since Manson was decided reveals that an array of variables can affect and dilute memory and lead to misidentifications. The variables are divided into two categories: system variables, which are factors like lineup procedures that are within the control of the criminal justice system; and estimator variables, which are factors related to the witness, the perpetrator, or the event itself - like distance, lighting, or stress - over which the legal system has no control. The Court summarizes its findings for each of the system and estimator variables consistent with the proper standards for reviewing special-master reports and scientific evidence. Among the Court's findings on system variables are the following: where the identification procedures are administered by someone who knows the identity of the suspect there is an increased likelihood of misidentification; feedback by administrators affects the reliability of identification and should be avoided; and the record casts doubt on the reliability of showups, or single-person lineups conducted more than two hours after the

event. Regarding some of the estimator variables, the Court finds that the reliability of an identification can be affected by: high levels of stress on the eyewitness; when the interaction is brief, the presence of a visible weapon; cross-racial recognition; and witness interaction with non-State actors like co-witnesses and other sources of information. In addition, the studies reveal generally that people do not intuitively understand all of the relevant scientific findings. As a result, there is a need to promote greater juror understanding of those issues. (pp. 40-92)

4. The remand hearing revealed that Manson/Madison does not adequately meet its stated goals: it does not provide a sufficient measure for reliability, it does not deter, and it overstates the jury's innate ability to evaluate eyewitness testimony. Remedying the problems with the current Manson/Madison test requires an approach that addresses its shortcomings: one that allows judges to consider all relevant factors that affect reliability in deciding whether an identification is admissible; that is not heavily weighted by factors that can be corrupted by suggestiveness; that promotes deterrence in a meaningful way; and that focuses on helping jurors both understand and evaluate the effects that various factors have on memory. Two principal changes to the current system are needed. First, the revised framework should allow all relevant system and estimator variables to be explored and weighed at pretrial hearings when there is some actual evidence of suggestiveness. Second, courts should develop and use enhanced jury charges to assist jurors in evaluating eyewitness identification evidence. Under our revised approach, to obtain a pretrial hearing, a defendant has the initial burden of showing some evidence of suggestiveness that could lead to a mistaken identification. The State must then offer proof to show that the proffered eyewitness identification is reliable, accounting for system and estimator variables. However, the court can end the hearing at any time if it finds from the testimony that defendant's threshold allegation of suggestiveness is groundless. The ultimate burden remains on the defendant to prove a very substantial likelihood of irreparable misidentification. If, after weighing the evidence presented, a court finds from the totality of the circumstances that defendant has demonstrated a very substantial likelihood of irreparable misidentification, the court should suppress the identification evidence. If the evidence is admitted, the court should provide appropriate, tailored jury instructions. (pp. 103-122)

5. The Court directs that enhanced instructions be given to guide juries about the various factors that may affect the reliability of an identification in a particular case. Those instructions are to be included in the court's comprehensive jury charge at the close of evidence. In addition, instructions may be given during trial if warranted. Expert testimony may also be introduced at trial, but only if otherwise appropriate. The Court anticipates, however, that with enhanced jury instructions, there will be less need for expert testimony. To help implement this decision, the Court asks the Criminal Practice Committee and the Committee on Model Criminal Jury Charges to draft proposed revisions to the current charge on eyewitness identification and submit them to this Court for review before they are implemented. (pp. 122-128)

6. Returning to the facts of this case, the investigating officers intervened after Womble, the eyewitness, informed the lineup administrator that he could not make an identification from the final two photos. The officers conveyed a message that there was an identification to be made and they encouraged Womble to make one. The suggestive nature of the officers' comments entitled defendant to a pretrial hearing, and he received one in which the trial court applied the Manson/Madison test. The Court now remands to the trial court for an expanded hearing consistent with the principles outlined in this decision. If the trial court finds that the identification should not have been admitted, then the parties should present argument as to whether a new trial is needed. If Womble's identification was properly admitted, then defendant's conviction should be affirmed. (pp. 128-129)

7. The Court must determine whether the new rule should be applied retroactively. Applying the relevant factors, the Court determines that today's ruling will apply to future cases only, except for defendant Henderson and defendant Cecilia Chen, the subject of a companion case filed today. As to future cases, today's ruling will take effect thirty days from the date this Court approves new model jury charges on eyewitness identification. (pp. 129-132)

The judgment of the Appellate Division is **MODIFIED** and **AFFIRMED,** and the matter is **REMANDED** to the trial court for further proceedings consistent with the Court's opinion.

JUSTICES LONG, LaVECCHIA, ALBIN, RIVERA-SOTO and HOENS join in CHIEF JUSTICE RABNER's opinion.

SUPREME COURT OF NEW JERSEY
A-8 September Term 2008
062218

STATE OF NEW JERSEY,

Plaintiff-Appellant,

v.

LARRY R. HENDERSON,

Defendant-Respondent.

Argued January 20, 2009 -- Remanded February 26, 2009
Special Master's Report Filed June 21, 2010 --
Reargued March 28, 2011 – Decided August 24, 2011

On certification to the Superior Court, Appellate Division, whose opinion is reported at 397 N.J. Super. 398 (2008).

Deborah C. Bartolomey, Deputy Attorney General, argued the cause for appellant (Paula T. Dow, Attorney General of New Jersey, attorney).

Joshua D. Sanders and Joseph E. Krakora, Assistant Deputy Public Defenders, argued the cause for respondent (Yvonne Smith Segars, Public Defender, attorney).

Alison S. Perrone argued the cause for amicus curiae Association of Criminal Defense Lawyers of New Jersey.

Barry C. Scheck, a member of the New York bar, argued the cause for amicus curiae Innocence Project, Inc. (Gibbons, attorneys; Mr. Scheck, Lawrence S. Lustberg, and Ellen P. Lubensky, on the briefs).

CHIEF JUSTICE RABNER delivered the opinion of the Court.

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I. Introduction

In the thirty-four years since the United States Supreme Court announced a test for the admission of eyewitness identification evidence, which New Jersey adopted soon after, a vast body of scientific research about human memory has emerged. That body of work casts doubt on some commonly held views relating to memory. It also calls into question the vitality of the current legal framework for analyzing the reliability of eyewitness identifications. See Manson v. Brathwaite, 432 U.S. 98, 97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977); State v. Madison, 109 N.J. 223 (1988).

In this case, defendant claims that an eyewitness mistakenly identified him as an accomplice to a murder. Defendant argues that the identification was not reliable

because the officers investigating the case intervened during the identification process and unduly influenced the eyewitness. After a pretrial hearing, the trial court found that the officers' behavior was not impermissibly suggestive and admitted the evidence. The Appellate Division reversed. It held that the officers' actions were presumptively suggestive because they violated guidelines issued by the Attorney General in 2001 for conducting identification procedures.

After granting certification and hearing oral argument, we remanded the case and appointed a Special Master to evaluate scientific and other evidence about eyewitness identifications. The Special Master presided over a hearing that probed testimony by seven experts and produced more than 2,000 pages of transcripts along with hundreds of scientific studies. He later issued an extensive and very fine report, much of which we adopt.

We find that the scientific evidence considered at the remand hearing is reliable. That evidence offers convincing proof that the current test for evaluating the trustworthiness of eyewitness identifications should be revised. Study after study revealed a troubling lack of reliability in eyewitness identifications. From social science research to the review of actual police lineups, from laboratory experiments to DNA exonerations, the record proves that the possibility of mistaken

identification is real. Indeed, it is now widely known that eyewitness misidentification is the leading cause of wrongful convictions across the country.

We are convinced from the scientific evidence in the record that memory is malleable, and that an array of variables can affect and dilute memory and lead to misidentifications. Those factors include system variables like lineup procedures, which are within the control of the criminal justice system, and estimator variables like lighting conditions or the presence of a weapon, over which the legal system has no control. To its credit, the Attorney General's Office incorporated scientific research on system variables into the guidelines it issued in 2001 to improve eyewitness identification procedures. We now review both sets of variables in detail to evaluate the current Manson/Madison test.

In the end, we conclude that the current standard for assessing eyewitness identification evidence does not fully meet its goals. It does not offer an adequate measure for reliability or sufficiently deter inappropriate police conduct. It also overstates the jury's inherent ability to evaluate evidence offered by eyewitnesses who honestly believe their testimony is accurate.

Two principal steps are needed to remedy those concerns. First, when defendants can show some evidence of suggestiveness,

all relevant system and estimator variables should be explored at pretrial hearings. A trial court can end the hearing at any time, however, if the court concludes from the testimony that defendant's threshold allegation of suggestiveness is groundless. Otherwise, the trial judge should weigh both sets of variables to decide if the evidence is admissible.

Up until now, courts have only considered estimator variables if there was a finding of impermissibly suggestive police conduct. In adopting this broader approach, we decline to order pretrial hearings in every case, as opposed to cases in which there is some evidence of suggestiveness. We also reject a bright-line rule that would require suppression of reliable evidence any time a law enforcement officer missteps.

Second, the court system should develop enhanced jury charges on eyewitness identification for trial judges to use. We anticipate that identification evidence will continue to be admitted in the vast majority of cases. To help jurors weigh that evidence, they must be told about relevant factors and their effect on reliability. To that end, we have asked the Criminal Practice Committee and the Committee on Model Criminal Jury Charges to draft proposed revisions to the current model charge on eyewitness identification and address various system and estimator variables. With the use of more focused jury charges on those issues, there will be less need to call expert

witnesses at trial. Trial courts will still have discretion to admit expert testimony when warranted.

The factors that both judges and juries will consider are not etched in stone. We expect that the scientific research underlying them will continue to evolve, as it has in the more than thirty years since Manson. For the same reason, police departments are not prevented from improving their practices as we learn more about variables that affect memory. New approaches, though, must be based on reliable scientific evidence that experts generally accept.

The changes outlined in this decision are significant because eyewitness identifications bear directly on guilt or innocence. At stake is the very integrity of the criminal justice system and the courts' ability to conduct fair trials. Ultimately, we believe that the framework described below will both protect the rights of defendants, by minimizing the risk of misidentification, and enable the State to introduce vital evidence.

The revised principles in this decision will apply purely prospectively except for defendant Larry Henderson and defendant Cecilia Chen, the subject of a companion case also decided today. See State v. Chen, ___ N.J. ___ (2011). We remand defendant Henderson's case for a new pretrial hearing consistent

with this opinion to determine the admissibility of the eyewitness evidence introduced at his trial.

II. Facts and Procedural History

A. Facts

In the early morning hours of January 1, 2003, Rodney Harper was shot to death in an apartment in Camden. James Womble witnessed the murder but did not speak with the police until they approached him ten days later.

Womble and Harper were acquaintances who occasionally socialized at the apartment of Womble's girlfriend, Vivian Williams. On the night of the murder, Womble and Williams brought in the New Year in Williams' apartment by drinking wine and champagne and smoking crack cocaine. Harper had started the evening with them but left at around 10:15 p.m. Williams also left roughly three hours later, leaving Womble alone in the apartment until Harper rejoined him at 2:00 to 2:30 a.m.

Soon after Harper returned, two men forcefully entered the apartment. Womble knew one of them, co-defendant George Clark, who had come to collect $160 from Harper. The other man was a stranger to Womble.

While Harper and Clark went to a different room, the stranger pointed a gun at Womble and told him, "Don't move, stay right here, you're not involved in this." He remained with the stranger in a small, narrow, dark hallway. Womble testified

that he "got a look at" the stranger, but not "a real good look." Womble also described the gun pointed at his torso as a dark semiautomatic.

Meanwhile, Womble overheard Clark and Harper argue over money in the other room. At one point, Harper said, "do what you got to do," after which Womble heard a gunshot. Womble then walked into the room, saw Clark holding a handgun, offered to get Clark the $160, and urged him not to shoot Harper again. As Clark left, he warned Womble, "Don't rat me out, I know where you live."

Harper died from the gunshot wound to his chest on January 10, 2003. Camden County Detective Luis Ruiz and Investigator Randall MacNair were assigned to investigate the homicide, and they interviewed Womble the next day. Initially, Womble told the police that he was in the apartment when he heard two gunshots outside, that he left to look for Harper, and that he found Harper slumped over in his car in a nearby parking lot, where Harper said he had been shot by two men he did not know.

The next day, the officers confronted Womble about inconsistencies in his story. Womble claimed that they also threatened to charge him in connection with the murder. Womble then decided to "come clean." He admitted that he lied at first because he did not want to "rat" out anyone and "didn't want to get involved" out of fear of retaliation against his elderly

father. Womble led the investigators to Clark, who eventually gave a statement about his involvement and identified the person who accompanied him as defendant Larry Henderson.

The officers had Womble view a photographic array on January 14, 2003. That event lies at the heart of this decision and is discussed in greater detail below. Ultimately, Womble identified defendant from the array, and Investigator MacNair prepared a warrant for his arrest. Upon arrest, defendant admitted to the police that he had accompanied Clark to the apartment where Harper was killed, and heard a gunshot while waiting in the hallway. But defendant denied witnessing or participating in the shooting.

A grand jury in Camden County returned an indictment charging Henderson and Clark with the following offenses: first-degree murder, N.J.S.A. 2C:11-3(a)(1) or (2); second-degree possession of a firearm for an unlawful purpose, N.J.S.A. 2C:39-4(a); fourth-degree aggravated assault, N.J.S.A. 2C:12-1(b)(4); third-degree unlawful possession of a weapon, N.J.S.A. 2C:39-5(b); and possession of a weapon having been convicted of a prior offense, N.J.S.A. 2C:39-7(a) (Henderson) and -7(b) (Clark).

B. Photo Identification and Wade Hearing

As noted above, Womble reviewed a photo array at the Prosecutor's Office on January 14, 2003, and identified

defendant as his assailant. The trial court conducted a pretrial Wade[1] hearing to determine the admissibility of that identification. Investigator MacNair, Detective Ruiz, and Womble all testified at the hearing. Cherry Hill Detective Thomas Weber also testified.

Detective Weber conducted the identification procedure because, consistent with guidelines issued by the Attorney General, he was not a primary investigator in the case. See Office of the Attorney Gen., N.J. Dep't of Law and Pub. Safety, Attorney General Guidelines for Preparing and Conducting Photo and Live Lineup Identification Procedures 1 (2001) (Attorney General Guidelines or Guidelines). According to the Guidelines, discussed in detail below, primary investigators should not administer photo or live lineup identification procedures "to ensure that inadvertent verbal cues or body language do not impact on a witness." Ibid.

Ruiz and MacNair gave Weber an array consisting of seven "filler" photos and one photo of defendant Henderson. The eight photos all depicted headshots of African-American men between the ages of twenty-eight and thirty-five, with short hair, goatees, and, according to Weber, similar facial features. At the hearing, Weber was not asked whether he knew which

[1] United States v. Wade, 388 U.S. 218, 87 S. Ct. 1926, 18 L. Ed. 2d 1149 (1967).

photograph depicted the suspect. (Later at trial, he said he did not know.)

The identification procedure took place in an interview room in the Prosecutor's Office. At first, Weber and Womble were alone in the room. Weber began by reading the following instructions off a standard form:

> In a moment, I will show you a number of photographs one at a time. You may take as much time as you need to look at each one of them. You should not conclude that the person who committed the crime is in the group merely because a group of photographs is being shown to you. The person who committed the crime may or may not be in the group, and the mere display of the photographs is not meant to suggest that our office believes the person who committed the crime is in one of the photographs. You are absolutely not required to choose any of the photographs, and you should feel not obligated to choose any one. The photographs will be shown to you in random order. I am not in any way trying to influence your decision by the order of the pictures presented. Tell me immediately if you recognize the person that committed the crime in one of the photographs. All of the photographs will be shown to you even if you select a photograph.
>
> Please keep in mind that hairstyles, beards, and mustaches are easily changed. People gain and lose weight. Also, photographs do not always show the true complexion of a person. It may be lighter or darker than shown in the photograph. If you select a photograph, please do not ask me whether I agree with or support your selection. It is your choice alone that counts. Please do not discuss whether you selected a photograph with any other witness

> who may be asked to look at these photographs.

To acknowledge that he understood the instructions, Womble signed the form.

Detective Weber pre-numbered the eight photos, shuffled them, and showed them to Womble one at a time. Womble quickly eliminated five of the photos. He then reviewed the remaining three, discounted one more, and said he "wasn't 100 percent sure of the final two pictures." At the Wade hearing, Detective Weber recalled that Womble "just shook his head a lot. He seemed indecisive." But he did not express any fear to Weber.

Weber left the room with the photos and informed MacNair and Ruiz that the witness had narrowed the pictures to two but could not make a final identification. MacNair and Ruiz testified at the hearing that they did not know whether defendant's picture was among the remaining two photos.

MacNair and Ruiz entered the interview room to speak with Womble. According to MacNair's testimony at the Wade hearing, he and Ruiz believed that Womble was holding back -- as he had earlier in the investigation -- based on fear. Ruiz said Womble was "nervous, upset about his father."

In an effort to calm Womble, MacNair testified that he "just told him to focus, to calm down, to relax and that any type of protection that [he] would need, any threats against

[him] would be put to rest by the Police Department." Ruiz added, "just do what you have to do, and we'll be out of here." In response, according to MacNair, Womble said he "could make [an] identification."

MacNair and Ruiz then left the interview room. Ruiz testified that the entire exchange lasted less than one minute; Weber believed it took about five minutes. When Weber returned to the room, he reshuffled the eight photos and again displayed them to Womble sequentially. This time, when Womble saw defendant's photo, he slammed his hand on the table and exclaimed, "[t]hat's the mother [------] there." From start to finish, the entire process took fifteen minutes.

Womble did not recant his identification, but during the Wade hearing he testified that he felt as though Detective Weber was "nudging" him to choose defendant's photo, and "that there was pressure" to make a choice.

After hearing the testimony, the trial court applied the two-part Manson/Madison test to evaluate the admissibility of the eyewitness identification. See Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154; Madison, supra, 109 N.J. 232-33. The test requires courts to determine first if police identification procedures were impermissibly suggestive; if so, courts then weigh five reliability factors to decide if the identification evidence is nonetheless admissible. See

Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154; Madison, supra, 109 N.J. 232-33.

The trial court first found that the photo display itself was "a fair makeup." Under the totality of the circumstances, the judge concluded that the photo identification was reliable. The court found that there was "nothing in this case that was improper, and certainly nothing that was so suggestive as to result in a substantial likelihood of misidentification at all." The court also noted that Womble displayed no doubts about identifying defendant Henderson, that he had the opportunity to view defendant at the crime scene, and that Womble fixed his attention on defendant "because he had a gun on him."

C. Trial

The following facts -- relevant to Womble's identification of defendant -- were adduced at trial after the court determined that the identification was admissible: Womble smoked two bags of crack cocaine with his girlfriend in the hours before the shooting; the two also consumed one bottle of champagne and one bottle of wine; the lighting was "pretty dark" in the hallway where Womble and defendant interacted; defendant shoved Womble during the incident; and Womble remembered looking at the gun pointed at his chest. Womble also admitted smoking about two bags of crack cocaine each day from the time of the shooting until speaking with police ten days later.

At trial, Womble elaborated on his state of mind during the identification procedure. He testified that when he first looked at the photo array, he did not see anyone he recognized. As he explained, "[m]y mind was drawing a blank . . . so I just started eliminating photos." To make a final identification, Womble said that he "really had to search deep." He was nonetheless "sure" of the identification.

Womble had no difficulty identifying defendant at trial eighteen months later. From the witness stand, Womble agreed that he had no doubt that defendant -- the man in the courtroom wearing "the white dress shirt" -- "is the man who held [him] at bay with a gun to [his] chest."

Womble also testified that he discarded a shell casing from the shooting at an intersection five or six blocks from the apartment; he helped the police retrieve the casing ten days later. No guns or other physical evidence were introduced linking defendant to the casing or the crime scene.

Neither Clark nor defendant testified at trial. The primary evidence against defendant, thus, was Womble's identification and Detective MacNair's testimony about defendant's post-arrest statement.[2]

[2] The prosecution played a tape of Clark's statement at trial as well. It placed Henderson at the apartment but largely exculpated him. According to the record, the parties acknowledged that references in the statement to a co-defendant,

At the close of trial on July 20, 2004, the court relied on the existing model jury charge on eyewitness identification and instructed the jury as follows:

> [Y]ou should consider the observations and perceptions on which the identification is based, and Womble's ability to make those observations and perceptions. If you determine that his out-of-court identification is not reliable, you may still consider Womble's in-court identification of Gregory Clark and Larry Henderson if you find that to be reliable. However, unless the identification here in court resulted from Womble's observations or perceptions of a perpetrator during the commission of an offense rather than being the product of an impression gained at an out-of-court identification procedure such as a photo lineup, it should be afforded no weight. The ultimate issues of the trustworthiness of both in-court and out-of-court identifications are for you, the jury to decide.
>
> To decide whether the identification testimony is sufficiently reliable evidence . . . you may consider the following factors:
>
> First of all, Womble's opportunity to view the person or persons who allegedly committed the offense at the time of the offense; second, Womble's degree of attention on the alleged perpetrator when he allegedly observed the crime being committed; third, the accuracy of any prior description of the perpetrator given [b]y Womble; fourth, you should consider the fact

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namely Henderson, would have to be redacted under Bruton v. United States, 391 U.S. 123, 88 S. Ct. 1620, 20 L. Ed. 2d 476 (1968). Defense counsel did not seek redaction, though, specifically because the court had admitted the photo lineup and because of the tape's exculpatory nature.

> that in Womble's sworn taped statement of January 11th, 2003 to the police . . ., Womble did not identify anyone as the person or persons involved in the shooting of Rodney Harper . . . .
>
> Next, you should consider the degree of certainty, if any, expressed by Womble in making the identification. . . .[3]
>
> You should also consider the length of time between Womble's observation of the alleged offense and his identification . . . . You should consider any discrepancies or inconsistencies between identifications . . . .
>
> Next, the circumstances under which any out-of-court identification was made including in this case the evidence that during the showing to him of eight photos by Detective Weber he did not identify Larry Henderson when he first looked at them and later identified Larry Henderson from one of those photos.
>
> . . . . You may also consider any other factor based on the evidence or lack of evidence in the case which you consider relevant to your determination whether the identification made by Womble is reliable or not.

Defendant did not object to the charge or ask for any additional instructions related to the identification evidence presented at trial.

[3] After defendant's conviction, this Court decided State v. Romero, 191 N.J. 59, 76 (2007), which held that jurors are to be warned that "a witness's level of confidence, standing alone, may not be an indication of the reliability of the identification."

On July 20, 2004, the jury acquitted defendant of murder and aggravated manslaughter, and convicted him of reckless manslaughter, N.J.S.A. 2C:11-4(b)(1), aggravated assault, and two weapons charges. In a bifurcated trial the next day, the jury convicted defendant of the remaining firearms offense: possession by a previously convicted person. The court sentenced him to an aggregate eleven-year term of imprisonment, with a period of parole ineligibility of almost six years under the No Early Release Act, N.J.S.A. 2C:43-7.2. Defendant appealed his conviction and sentence.

D. Appellate Division

The Appellate Division presumed that the identification procedure in this case was impermissibly suggestive under the first prong of the Manson/Madison test. State v. Henderson, 397 N.J. Super. 398, 414 (App. Div. 2008). The court reversed and remanded for a new Wade hearing to determine whether the identification was nonetheless reliable under the test's second prong. Id. at 400, 414-15.

The panel anchored its finding to what it considered to be a material breach of the Attorney General Guidelines. Id. at 412. Among other things, the Guidelines require that "'whenever practical' the person conducting the photographic identification procedure 'should be someone other than the primary investigator assigned to the case.'" Id. at 411 (citing State v. Herrera,

187 N.J. 493, 516 (2006)). The panel specifically found that the investigating officers, MacNair and Ruiz, "consciously and deliberately intruded into the process for the purpose of assisting or influencing Womble's identification of defendant." Id. at 414. The officers' behavior, the court explained, "certainly violate[d] the spirit of the Guidelines." Id. at 412. In such circumstances, the panel "conclude[d] that a presumption of impermissible suggestiveness must be imposed, and a new Wade hearing conducted." Id. at 400.

E. Certification and Remand Order

We granted the State's petition for certification, 195 N.J. 521 (2008), and also granted leave to appear as amicus curiae to the Association of Criminal Defense Lawyers of New Jersey (ACDL) and the Innocence Project (collectively "amici"). In their briefs and at oral argument, the parties and amici raised questions about possible shortcomings in the Manson/Madison test in light of recent scientific research.

In an unpublished Order dated February 26, 2009, attached as Appendix A, we "concluded that an inadequate factual record exist[ed] on which [to] test the current validity of our state law standards on the admissibility of eyewitness identification." App. A at *3. We therefore remanded the matter

> summarily to the trial court for a plenary hearing to consider and decide whether the assumptions and other factors reflected in the two-part Manson/Madison test, as well as the five factors outlined in those cases to determine reliability, remain valid and appropriate in light of recent scientific and other evidence.
>
> [Ibid.]

We appointed the Honorable Geoffrey Gaulkin, P.J.A.D. (retired and temporarily assigned on recall) to preside at the remand hearing as a Special Master.

Pursuant to the Order, the following parties participated in the remand hearing: the Attorney General, the Public Defender (representing defendant[4]), and amici.

The parties and amici collectively produced more than 360 exhibits, which included more than 200 published scientific studies on human memory and eyewitness identification. During the ten-day remand hearing, the Special Master heard testimony from seven expert witnesses. Three of them –- Drs. Gary Wells, Steven Penrod, and Roy Malpass -- testified about the state of scientific research in the field of eyewitness identification.

Dr. Wells, who was called as a witness by the Innocence Project, holds a Ph.D. in Experimental Social Psychology and serves as a Professor of Psychology at Iowa State University.

[4] Defendant was still in prison on September 17, 2009, when the remand proceedings began. Through counsel, he waived his right to appear. Defendant was paroled on November 30, 2009, after which he again waived his appearance.

Since 1977, Dr. Wells has published more than 100 articles on eyewitness identification research. He assisted the Attorney General's Office in connection with the formulation of the Attorney General Guidelines.

Dr. Penrod, who was called as a witness by defendant, is a Distinguished Professor of Psychology at John Jay College of Criminal Justice in New York. He holds a degree in law and a Ph.D. in Pyschology. Dr. Penrod has also published extensively in the area of eyewitness identification and has served on the editorial board of numerous psychology journals.

Dr. Malpass, who was called by the State, is also widely published. He holds a Ph.D., and his academic career spans more than four decades. Dr. Malpass is currently a Professor of Psychology and Criminal Justice at the University of Texas, El Paso, where he runs the university's Eyewitness Identification Research Lab.

The parties and amici also presented the testimony of three law professors: James Doyle, Jules Epstein, and Dr. John Monahan. The professors discussed the intersection of eyewitness identification research and the legal system.

Dr. Monahan and Professor Doyle were called as witnesses by the Innocence Project. Dr. Monahan has a Ph.D. in Clinical Psychology, is a Distinguished Professor of Law at the University of Virginia, and holds dual appointments in the

Departments of Psychology and Psychiatric and Neurobehavioral Sciences. He coauthored the casebook Social Science in Law (7th ed. 2010), and has published extensively on that topic. Professor Doyle is Director of the Center for Modern Forensic Practice at John Jay College of Criminal Justice. In 1987, he co-authored a treatise titled Eyewitness Testimony: Civil and Criminal, which he regularly updates.

Defendant presented Professor Epstein as a witness. He is an Associate Professor of Law at Widener University School of Law, who has spent more than a decade representing criminal defendants in Philadelphia. He, too, has written extensively on eyewitness identification.

The State also called James Gannon to testify. From 1986 to 2007, he worked with the Morris County Prosecutor's Office, ultimately serving as Deputy Chief of Investigations. During his career, he investigated approximately 120 homicides. He continues to train law enforcement personnel locally and internationally. Gannon testified about practical constraints police officers sometimes face in conducting investigations.

III. Proof of Misidentifications

In this case, the parties heavily dispute the admissibility and reliability of Womble's eyewitness identification of defendant. We therefore begin with some important, general observations about eyewitness identification evidence, which are

derived mostly from the remand hearing as well as prior case law.

In 2006, this Court observed that eyewitness "[m]isidentification is widely recognized as the single greatest cause of wrongful convictions in this country." State v. Delgado, 188 N.J. 48, 60 (2006) (citations omitted); see also Romero, supra, 191 N.J. at 73-74 ("Some have pronounced that mistaken identifications 'present what is conceivably the greatest single threat to the achievement of our ideal that no innocent man shall be punished.'" (citation omitted)). That same year, the International Association of Chiefs of Police published training guidelines in which it concluded that "[o]f all investigative procedures employed by police in criminal cases, probably none is less reliable than the eyewitness identification. Erroneous identifications create more injustice and cause more suffering to innocent persons than perhaps any other aspect of police work." Int'l Ass'n of Chiefs of Police, Training Key No. 600, Eyewitness Identification 5 (2006).

Substantial evidence in the record supports those statements. Nationwide, "more than seventy-five percent of convictions overturned due to DNA evidence involved eyewitness misidentification." Romero, supra, 191 N.J. at 74 (citing Innocence Project report); Brandon L. Garrett, Convicting the

Innocent: Where Criminal Prosecutions Go Wrong 8-9, 279 (2011)[5] (finding same in 190 of first 250 DNA exoneration cases). In half of the cases, eyewitness testimony was not corroborated by confessions, forensic science, or informants. See The Innocence Project, Understand the Causes: Eyewitness Misidentification, http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php (last visited August 16, 2011). Thirty-six percent of the defendants convicted were misidentified by more than one eyewitness. Garrett, supra, at 50. As we recognized four years ago, "[i]t has been estimated that approximately 7,500 of every 1.5 million annual convictions for serious offenses may be based on misidentifications." Romero, supra, 191 N.J. at 74 (citing Brian L. Cutler & Steven D. Penrod, Mistaken Identification: The Eyewitness, Psychology, and the Law 7 (1995)).

New Jersey is not immune. The parties noted that misidentifications factored into three of the five reported DNA exonerations in our State. In one of those cases, this Court had reversed convictions for rape and robbery because the trial court failed to instruct the jury that people may have greater difficulty in identifying members of a different race. See

[5] This book was published after the remand hearing, and a part was submitted to the Court and addressed by the parties. The book analyzes the first 250 DNA exoneration cases in the United States, and its author reviewed the full trial record in most of those matters. See Garrett, supra, at 7.

State v. Cromedy, 158 N.J. 112, 121-23, 132 (1999) (citing social science studies). After the decision, DNA tests led to Cromedy's exoneration.

But DNA exonerations are rare. To determine whether statistics from such cases reflect system-wide flaws, police departments have allowed social scientists to analyze case files and observe and record data from real-world identification procedures.

Four such studies -- two from Sacramento, California and two from London, England -- produced data from thousands of actual eyewitness identifications. See Bruce W. Behrman & Sherrie L. Davey, Eyewitness Identification in Actual Criminal Cases: An Archival Analysis, 25 Law & Hum. Behav. 475 (2001) (compiling records from fifty-eight live police lineups from area around Sacramento); Bruce W. Behrman & Regina E. Richards, Suspect/Foil Identification in Actual Crimes and in the Laboratory: A Reality Monitoring Analysis, 29 Law & Hum. Behav. 279 (2005) (assessing 461 photo and live lineup records from same area); Tim Valentine et al., Characteristics of Eyewitness Identification that Predict the Outcome of Real Lineups, 17 Applied Cognitive Psychol. 969 (2003) (analyzing 584 lineup records from police stations in and around London); Daniel B. Wright & Anne T. McDaid, Comparing System and Estimator

Variables Using Data from Real Line-Ups, 10 Applied Cognitive Psychol. 75 (1996) (evaluating 1,561 records from same area).

For the larger London study, 39% of eyewitnesses identified the suspect, 20% identified a filler, and 41% made no identification. See Wright & McDaid, supra, at 77. Thus, about one-third of eyewitnesses who made an identification (20 of 59) in real police investigations wrongly selected an innocent filler. The results were comparable for the Valentine study. See Valentine, supra, at 974. Across both Sacramento studies, 51% of eyewitnesses identified the suspect, 16% identified a filler, and 33% identified no one. See Behrman & Davey, supra, at 482; Behrman & Richards, supra, at 285. In other words, nearly 24% of those who made an identification (16 of 67) mistakenly identified an innocent filler.

Although the studies revealed alarming rates at which witnesses chose innocent fillers out of police lineups, the data cannot identify how many of the suspects actually selected were the real culprits. See Behrman & Davey, supra, at 478. Researchers have conducted field experiments to try to answer that more elusive question: how often are innocent suspects wrongly identified?

Three experiments targeted unassuming convenience store clerks and one focused on bank tellers. See John C. Brigham et al., Accuracy of Eyewitness Identifications in a Field Setting,

42 J. Personality & Soc. Psychol. 673 (1982); Carol Krafka & Steven Penrod, Reinstatement of Context in a Field Experiment on Eyewitness Identification, 49 J. Personality & Soc. Psychol. 58 (1985); Stephanie J. Platz & Harmon M. Hosch, Cross-Racial/Ethnic Eyewitness Identification: A Field Study, 18 J. Applied Soc. Psychol. 972 (1988); Melissa A. Pigott et al., A Field Study on the Relationship Between Quality of Eyewitnesses' Descriptions and Identification Accuracy, 17 J. Police Sci. & Admin. 84 (1990) (bank teller study).

Each study unfolded with different variations of the following approach: a customer walked into a store and tried to buy a can of soda with a $10 traveler's check; he produced two pieces of identification and chatted with the clerk; and the encounter lasted about three minutes. See, e.g., Krafka & Penrod, supra, at 62. Two to twenty-four hours later, a different person entered the same store and asked the same clerk to identify the man with the traveler's check; the clerk was told that the suspect might not be among the six photos presented; and no details of the investigation were given. Ibid. Only after making a choice was the clerk told that he or she had participated in an experiment. Id. at 63.

Across the four experiments, researchers gathered data from more than 500 identifications. Dr. Penrod testified that on average, 42% of clerks made correct identifications, 41%

identified photographs of innocent fillers, and 17% chose to identify no one. See Brigham et al., supra, at 677; Krafka & Penrod, supra, at 64-65; Pigott et al., supra, at 86-87; Platz & Hosch, supra, at 978. Those numbers, like the results from the Sacramento and London studies, reveal high levels of misidentifications.

In two of the studies, researchers showed some clerks target-absent arrays -- lineups that purposely excluded the perpetrator and contained only fillers. See Krafka & Penrod, supra, at 64-65; Pigott et al., supra, at 86. In those experiments, Dr. Penrod testified that 64% of eyewitnesses made no identification, but 36% picked a foil. See Krafka & Penrod, supra, at 64; Pigott et al., supra, at 86. Those field experiments suggest that when the true perpetrator is not in the lineup, eyewitnesses may nonetheless select an innocent suspect more than one-third of the time.

Any one of the above studies, standing alone, reveals a troubling lack of reliability in eyewitness identifications.

We accept that eyewitnesses generally act in good faith. Most misidentifications stem from the fact that human memory is malleable; they are not the result of malice. As discussed below, an array of variables can affect and dilute eyewitness memory.

Along with those variables, a concept called relative judgment, which the Special Master and the experts discussed, helps explain how people make identifications and raises concerns about reliability. Under typical lineup conditions, eyewitnesses are asked to identify a suspect from a group of similar-looking people. "[R]elative judgment refers to the fact that the witness seems to be choosing the lineup member who most resembles the witnesses' memory relative to other lineup members." Gary L. Wells, The Psychology of Lineup Identifications, 14 J. Applied Soc. Psychol. 89, 92 (1984) (emphasis in original). As a result, if the actual perpetrator is not in a lineup, people may be inclined to choose the best look-alike. Id. at 93. Psychologists have noted that "[t]his is not a surprising proposition." Gary L. Wells, What Do We Know About Eyewitness Identification?, 48 Am. Psychologist 553, 560 (1993). Also not surprising is that it enhances the risk of misidentification. Ibid.

In one relative-judgment experiment, 200 witnesses were shown a staged crime. Id. at 561. Half of the witnesses were then shown a lineup that included the perpetrator and five fillers; the other half looked at a lineup with fillers only. Ibid. All of the witnesses were warned that the culprit might not be in the array and were given the option to choose no one. Ibid. From the first group, 54% made a correct identification

and 21% believed, incorrectly, that the perpetrator was not in the array. Ibid. If witnesses rely on pure memory instead of relative judgment, the accurate identifications from the first group should have translated roughly into 54% making no choice in the second, target-absent group. Instead, only 32% of witnesses from the second group said that the culprit was not present, while 68% misidentified a filler. Ibid. Consistent with the concept of relative judgment, witnesses chose other fillers who looked more like the perpetrator to them, instead of making no identification. Ibid.

Relative judgment touches the core of what makes the question of eyewitness identification so challenging. Without persuasive extrinsic evidence, one cannot know for certain which identifications are accurate and which are false -- which are the product of reliable memories and which are distorted by one of a number of factors.

Nearly four decades ago, Chief Judge Bazelon remarked skeptically that in the face of such uncertainty, “we have bravely assumed that the jury is capable of evaluating [eyewitness] reliability.” United States v. Brown, 461 F.2d 134, 145 n.1 (D.C. Cir. 1972) (Bazelon, C.J., concurring & dissenting). Five years later, in Manson, supra, the Supreme Court noted that in most cases “[w]e are content to rely upon the good sense and judgment of American juries” because

eyewitness identification "evidence with some element of untrustworthiness is customary grist for the jury mill." 432 U.S. at 116, 97 S. Ct. at 2254, 53 L. Ed. 2d at 155. Justice Marshall, in dissent, expressed a contrary view. See id. at 120, 97 S. Ct. at 2255-56, 53 L. Ed. 2d at 157 (Marshall, J., dissenting). A "fundamental fact of judicial experience," Justice Marshall wrote, is that jurors "unfortunately are often unduly receptive to [eyewitness identification] evidence." Ibid.

We presume that jurors are able to detect liars from truth tellers. But as scholars have cautioned, most eyewitnesses think they are telling the truth even when their testimony is inaccurate, and "[b]ecause the eyewitness is testifying honestly (i.e., sincerely), he or she will not display the demeanor of the dishonest or biased witness." See Jules Epstein, The Great Engine that Couldn't: Science, Mistaken Identity, and the Limits of Cross-Examination, 36 Stetson L. Rev. 727, 772 (2007). Instead, some mistaken eyewitnesses, at least by the time they testify at trial, exude supreme confidence in their identifications.

As discussed below, lab studies have shown that eyewitness confidence can be influenced by factors unrelated to a witness' actual memory of a relevant event. See Amy Bradfield Douglass & Nancy Steblay, Memory Distortion in Eyewitnesses: A Meta-

Analysis of the Post-identification Feedback Effect, 20 Applied Cognitive Psychol. 859, 864-65 (2006) (addressing effects of confirmatory feedback on confidence). Indeed, this Court has already acknowledged that accuracy and confidence "may not be related to one another at all." See Romero, supra, 191 N.J. at 75 (citation omitted).

DNA exoneration cases buttress the lab results. Almost all of the eyewitnesses in those cases testified at trial that they were positive they had identified the right person. See Garrett, supra, 63-64 (noting also that in 57% of the trials, "the witnesses had earlier not been certain at all").

In the face of those proofs, we are mindful of the observation that "there is almost nothing more convincing [to a jury] than a live human being who takes the stand, points a finger at the defendant, and says 'That's the one!'" Watkins v. Sowders, 449 U.S. 341, 352, 101 S. Ct. 654, 661, 66 L. Ed. 2d 549, 558-59 (Brennan, J., dissenting) (quoting Elizabeth Loftus, Eyewitness Testimony 19 (1979)) (emphasis in original).

The State challenges the above concepts in various ways: it argues that some studies evaluating real police files and investigations are unreliable because it is unclear whether the witnesses were given proper pre-lineup warnings, see, e.g., Valentine et al., supra; that misidentification statistics gleaned from more than 200 nationwide DNA exonerations are

insufficient to conclude that a serious problem exists; that the only DNA exonerations relevant to this case are the five cases from New Jersey, which all predated the Attorney General Guidelines; that exculpatory DNA evidence does not necessarily prove a defendant is innocent; and that DNA exonerations only remind us that the criminal justice system is imperfect.

That broad-brush approach, however, glosses over the consistency and importance of the comprehensive scientific research that is discussed in the record. Recent studies -- ranging from analyses of actual police lineups, to laboratory experiments, to DNA exonerations -- prove that the possibility of mistaken identification is real, and the consequences severe.

IV. Current Legal Framework

The current standards for determining the admissibility of eyewitness identification evidence derive from the principles the United States Supreme Court set forth in Manson in 1977. See Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154. New Jersey formally adopted Manson's framework in Madison, supra, 109 N.J. at 232-33.

Madison succinctly outlined Manson's two-step test as follows:

> [A] court must first decide whether the procedure in question was in fact impermissibly suggestive. If the court does find the procedure impermissibly suggestive, it must then decide whether the

> objectionable procedure resulted in a "very substantial likelihood of irreparable misidentification." In carrying out the second part of the analysis, the court will focus on the reliability of the identification. If the court finds that the identification is reliable despite the impermissibly suggestive nature of the procedure, the identification may be admitted into evidence.
>
> [Madison, supra, 109 N.J. at 232 (citations omitted).]

As the Supreme Court explained, "reliability is the linchpin in determining the admissibility of identification testimony." Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154. To assess reliability, courts must consider five factors adopted from Neil v. Biggers: (1) the "opportunity of the witness to view the criminal at the time of the crime"; (2) "the witness's degree of attention"; (3) "the accuracy of his prior description of the criminal"; (4) "the level of certainty demonstrated at the time of the confrontation"; and (5) "the time between the crime and the confrontation." Madison, supra, 109 N.J. at 239-40 (quoting Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154 (citing Neil v. Biggers, 409 U.S. 188, 199, 93 S. Ct. 375, 382, 34 L. Ed. 2d 401, 411 (1972))) (internal quotation marks omitted). Those factors are to be weighed against "the corrupting effect of the suggestive identification itself."

Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154.

Procedurally, a defendant must first "proffer . . . some evidence of impermissible suggestiveness" to be entitled to a Wade hearing. State v. Rodriquez, 264 N.J. Super. 261, 269 (App. Div. 1993) (citations omitted), aff'd o.b., 135 N.J. 3 (1994); State v. Ortiz, 203 N.J. Super. 518, 522 (App. Div. 1985). At the hearing, if the court decides the procedure "was in fact impermissibly suggestive," it then considers the reliability factors. See Madison, supra, 109 N.J. at 232. The State then "has the burden of proving by clear and convincing evidence that the identification[] . . . had a source independent of the police-conducted identification procedures." Id. at 245 (citing Wade, supra, 388 U.S. at 240, 87 S. Ct. at 1939, 18 L. Ed. 2d at 1164) (additional citation omitted). Overall, the reliability determination is to be made from the totality of the circumstances. Id. at 233 (citing Neil v. Biggers, supra, 409 U.S. at 199, 93 S. Ct. at 382, 34 L. Ed. 2d at 411).

Manson, supra, intended to address several concerns: problems with the reliability of eyewitness identification; deterrence; and the effect on the administration of justice. 432 U.S. at 111-13, 97 S. Ct. at 2251-52, 53 L. Ed. 2d at 152-53. Underlying Manson's approach are certain assumptions: that

jurors can detect untrustworthy eyewitnesses, see id. at 116, 97 S. Ct. at 2254, 53 L. Ed. 2d at 155; and that the test would deter suggestive police practices, see id. at 112, 97 S. Ct. at 2252, 53 L. Ed. 2d at 152. As to the latter point, the Court adopted a totality approach over a per se rule of exclusion to avoid "keep[ing] evidence from the jury that is reliable and relevant." Ibid.

Manson and Madison provide good examples for how the two-pronged test is applied. In Manson, supra, an undercover narcotics officer, Trooper Glover, observed a defendant during a drug buy. 432 U.S. at 100-01, 97 S. Ct. at 2245-46, 53 L. Ed. 2d at 145-46. Glover did not know the person and described him to backup officers after the transaction. Based on the description, one of the officers left a photo of the defendant on Glover's desk. Glover later identified the defendant from the single photo. Id. at 101, 97 S. Ct. at 2246, 53 L. Ed. 2d at 145-46.

Although the Court recognized that "identifications arising from single-photograph displays may be viewed in general with suspicion," it found that the corrupting effect of the challenged identification did not outweigh Glover's ability to make an accurate identification. Id. at 116, 97 S. Ct. at 2254, 53 L. Ed. 2d at 155 (citation omitted). After assessing each of the five reliability factors, the Court concluded that the

identification was admissible because it could not "say that under all the circumstances of this case there is 'a very substantial likelihood of irreparable misidentification.'" Id. at 116, 97 S. Ct. at 2254, 53 L. Ed. 2d at 155 (citing Simmons v. United States, 390 U.S. 377, 384, 88 S. Ct. 967, 971, 19 L. Ed. 2d 1247, 1253 (1968)). "Short of that," the Court noted, the "evidence is for the jury to weigh." Ibid.

This Court applied the same test in Madison. Two months after an armed robbery, a detective administering a photo lineup showed a victim twenty-four black-and-white photographs containing at least one photo of the defendant. Madison, supra, 109 N.J. at 225. Next, the detective showed the victim an additional thirty-eight color photographs, "thirteen or fourteen of which depicted defendant as the center of attention at a birthday celebration held in his honor." Id. at 235.

The Court found the identification procedure "impermissibly suggestive" based on "the sheer repetition of defendant's picture." Id. at 234. It then remanded to the trial court to evaluate, under the second prong, "whether the identification[] . . . had an independent source" that could outweigh the substantial suggestiveness of the process. See id. at 245.

Since Madison, this Court, on occasion, has refined the Manson/Madison framework. In Cromedy, supra, the Court examined numerous social science studies showing that identifications are

less reliable when the witness and perpetrator are of different races. 158 N.J. at 121. In response, the Court held that jury instructions on the reliability of cross-racial identifications are necessary when "identification is a critical issue in the case" and there is no independent evidence corroborating the identification. Id. at 132.

More recently in Romero, supra, the Court recognized that "[j]urors likely will believe eyewitness testimony 'when it is offered with a high level of confidence, even though the accuracy of an eyewitness and the confidence of that witness may not be related to one another at all.'" 191 N.J. at 75 (quoting Watkins, supra, 449 U.S. at 352, 101 S. Ct. at 661, 66 L. Ed. 2d at 558 (Brennan, J., dissenting)). The Court cited "social science research noting the fallibility of eyewitness identifications" and directed that juries be instructed as follows in eyewitness identification cases:

> Although nothing may appear more convincing than a witness's categorical identification of a perpetrator, you must critically analyze such testimony. Such identifications, even if made in good faith, may be mistaken. Therefore, when analyzing such testimony, be advised that a witness's level of confidence, standing alone, may not be an indication of the reliability of the identification.
>
> [Id. at 75-76.]

In Delgado, supra, the Court directed that "law enforcement officers make a written record detailing [all] out-of-court identification procedure[s], including the place where the procedure was conducted, the dialogue between the witness and the interlocutor, and the results." 188 N.J. at 63. See also Herrera, supra, 187 N.J. at 504 (finding showup identification procedures inherently suggestive).

Despite those important, incremental changes, we have repeatedly used the Manson/Madison test to determine the admissibility of eyewitness identification evidence. As we noted in Herrera, "[u]ntil we are convinced that a different approach is required after a proper record has been made in the trial court, we continue to follow the [Manson/Madison] approach." Ibid.; see also State v. Adams, 194 N.J. 186, 201 (2008).

That record is now before us. It enables us to consider whether the Manson/Madison framework remains valid and appropriate or if a different approach is required. To make that determination, we first look to the scope of the scientific evidence since 1977. We then examine its content.

V. Scope of Scientific Research

Virtually all of the scientific evidence considered on remand emerged after Manson. In fact, the earliest study the

State submitted is from 1981, and only a handful of the more than 200 scientific articles in the record pre-date 1970.

During the 1970s, when the Supreme Court decided Manson, researchers conducted some experiments on the malleability of human memory. But according to expert testimony, that decade produced only four published articles in psychology literature containing the words "eyewitness" and "identity" in their abstracts. By contrast, the Special Master estimated that more than two thousand studies related to eyewitness identification have been published in the past thirty years.

Some recent studies have successfully gathered real-world data from actual police identification procedures. See, e.g., Behrman & Davey, supra; Valentine et al., supra. But most eyewitness identification research is conducted through controlled lab experiments. Unlike analyses of real-world data, experimental studies allow researchers to control and isolate variables. If an experiment is designed well, scientists can then draw relevant conclusions from different conditions.

There have been two principal methods of conducting eyewitness lab research. In some experiments, eyewitnesses have been shown staged events without knowing they were witnessing something artificial. See, e.g., Krafka & Penrod, supra. In other studies, witnesses generally knew they were participating in an experiment from the outset. See e.g., Lynn Garrioch &

C.A. Elizabeth Brimacombe, Lineup Administrators' Expectations: Their Impact on Eyewitness Confidence, 25 Law & Hum. Behav. 299 (2001). Most experiments manipulate variables, like the witness' and suspect's race, for example, and use target-present and target-absent lineups to test the effect the variable has on accuracy. (The scientific literature often uses the term "lineup" to refer to live lineups and/or photo arrays; we sometimes use the word interchangeably as well.)

Authoritative researchers generally present the results of their experiments in peer-reviewed psychology journals. "The peer review process is a method of quality control that ensures the validity and reliability of experimental research." Roy S. Malpass et al., The Need for Expert Psychological Testimony on Eyewitness Identification, in Expert Testimony on the Psychology of Eyewitness Identification 3, 14 (Brian L. Cutler ed., 2009). The process is designed to ensure that studies "have passed a rigorous test and are generally considered worthy of consideration by the greater scientific community" before they are published. Ibid. Of the hundreds of laboratory studies in the record, nearly all have been published in prominent, peer-reviewed journals.

Although one lab experiment can produce intriguing results, its data set may be small. For example, if only twenty people participated in an experiment, it may be difficult to generalize

the results beyond the individual study. Meta-analysis aims to solve that problem.

"A meta-analysis is a synthesis of all obtainable data collected in a specified topical area. The benefits of a meta-analysis are that greater statistical power can be obtained by combining data from many studies." Id. at 15. The more consistent the conclusions from aggregated data, the greater confidence one can have in those conclusions. More than twenty-five meta-analyses were presented at the hearing.

Despite its volume and breadth, the record developed on remand has its limitations. Results from meta-analysis, for example, still come mostly from controlled experiments. See State v. Marquez, 967 A.2d 56, 75 (Conn. 2009) (noting lack of "real-world data" in certain research areas (citation omitted)).[6] To determine whether such experiments reliably predict how people behave in the real world, researchers have tried to compare results across different types of studies.

[6] In Marquez, supra, the Connecticut Supreme Court concluded that "scientific literature . . . with respect to eyewitness identification procedures is far from universal or even well established, and that the research is in great flux." 967 A.2d at 77. Marquez considered six scientific articles and reports in reaching that conclusion, id. at 72-78, including an Illinois field study that has been strongly criticized, see id. at 75 & n.24; see also Daniel L. Schacter et al., Policy Forum: Studying Eyewitness Investigations in the Field, 32 Law & Hum. Behav. 3 (2008). The more extensive record presented and tested on remand provides a stronger basis for an assessment of eyewitness identification research.

Dr. Penrod presented data from a meta-analysis comparing studies in which witnesses knew they were participating in experiments and those in which witnesses observed what they thought were real crimes and were not told otherwise until after making an identification. See Ralph Norman Haber & Lyn Haber, A Meta-Analysis of Research on Eyewitness Lineup Identification Accuracy, Paper presented at the Annual Convention of the Psychonomics Society, Orlando, Florida 8-9 (Nov. 16, 2001). The analysis revealed that identification statistics from across the studies were remarkably consistent: in both sets of studies, 24% of witnesses identified fillers. See id. at 9 (also finding 34% filler identification rates when witnesses observed slideshows or videos of crimes). Those statistics are similar to data from real cases. As discussed in section III above, in police investigations in Sacramento and London, roughly 20% of eyewitnesses identified fillers. See Behrman & Davey, supra, at 482; Behrman & Richards, supra, at 285; Valentine et al., supra, at 974; Wright & McDaid, supra, at 77. Thus, although lab and field experiments may be imperfect proxies for real-world conditions, certain data they have produced are relevant and persuasive.

Critics, including the State, point out that most experiments occur on college campuses and use college students as witnesses in a way that does not replicate real life. Expert

testimony, though, highlighted that college students are among the best eyewitnesses in light of their general health, visual acuity, recall, and alertness. But real eyewitnesses, the critics contend, act more carefully when they identify real suspects. As the Special Master noted, it is hard to credit that argument in light of archival studies and the exoneration cases. Even with the best of intentions, misidentifications occur in the real world.

A similar criticism suggests that lab experiments cannot replicate the intensity and stress that crime victims experience, which leaves stronger memory traces. But as discussed below, studies have shown consistently that high degrees of stress actually impair the ability to remember. See, e.g., Kenneth A. Deffenbacher et al., A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory, 28 Law & Hum. Behav. 687, 687, 699 (2004).

Finally, the State argues that lab studies are designed so that about half of the participants will not be able to make an identification; a "base rate" of 50% is commonly used with half of the witnesses viewing a lineup with the suspect and half looking at fillers only. The State argues those results cannot be generalized to the real world, where the actual base rate may be much higher.

As Dr. Wells testified, statistical analysis permits researchers to estimate the results under any base rate. That said, in reality, we simply cannot know how often the suspect in an array is the actual perpetrator. But not knowing real-world base rates does not render experimental studies meaningless.

To be sure, many questions about memory and the psychology of eyewitness identifications remain unanswered. And eyewitness identification research remains probabilistic, meaning that science cannot say whether an identification in an actual case is accurate or not. Instead, science has sought to answer, in the aggregate, which identification procedures and external variables are tied to an increased risk of misidentification.

Mindful of those limitations, we next examine the research on human memory.

VI. How Memory Works

Research contained in the record has refuted the notion that memory is like a video recording, and that a witness need only replay the tape to remember what happened. Human memory is far more complex. The parties agree with the Special Master's finding that memory is a constructive, dynamic, and selective process.

The process of remembering consists of three stages: acquisition -- "the perception of the original event"; retention -- "the period of time that passes between the event and the

eventual recollection of a particular piece of information"; and retrieval -- the "stage during which a person recalls stored information." Elizabeth F. Loftus, Eyewitness Testimony 21 (2d ed. 1996). As the Special Master observed,

> [a]t each of those stages, the information ultimately offered as "memory" can be distorted, contaminated and even falsely imagined. The witness does not perceive all that a videotape would disclose, but rather "get[s] the gist of things and constructs a "memory" on "bits of information . . . and what seems plausible." The witness does not encode all the information that a videotape does; memory rapidly and continuously decays; retained memory can be unknowingly contaminated by post-event information; [and] the witness's retrieval of stored "memory" can be impaired and distorted by a variety of factors, including suggestive interviewing and identification procedures conducted by law enforcement personnel.
>
> [Internal citations omitted.]

Researchers in the 1970s designed a number of experiments to test how and to what extent memories can be distorted. One experiment began by showing subjects film clips of auto accidents. Elizabeth F. Loftus & John C. Palmer, Reconstruction of Automobile Destruction: An Example of the Interaction Between Language and Memory, 13 J. Verbal Learning & Verbal Behav. 585, 586 (1974). Researchers then asked test subjects to estimate the speed at which the cars traveled, and the answers differed markedly based on the question posed. On average, those asked "how fast were the cars going when they smashed into each

other?" guessed higher speeds than subjects asked the same question with the word collided, bumped, hit, or contacted. Ibid. The first group estimated a median speed of 40.5 miles per hour when the cars "smashed"; the last group guessed the speed at 31.8 miles per hour when the cars "contacted." Ibid. Thus, a simple difference in language was able to cause a substantial change in the reconstruction of memory.

A similar study showed college students a film of a car accident and asked some of them to guess how fast the car was going "along the country road"; the rest were asked how fast the car was going when it "passed the barn" along the country road. Elizabeth F. Loftus, Leading Questions and the Eyewitness Report, 7 Cognitive Psychol. 560, 566 (1975). One week later, the same students were asked if they had seen a barn in the film. Approximately 17% of students who were originally asked the "passed the barn" question said there was a barn, and just under 3% from the other group remembered a barn. Ibid. In reality, there was no barn. Ibid.; see also Elizabeth F. Loftus & Jacqueline E. Pickrell, The Formation of False Memories, 25 Psychiatric Annals 720 (1995); Elizabeth F. Loftus & Guido Zanni, Eyewitness Testimony: The Influence of the Wording of a Question, 5 Bull. Psychonomic Soc'y 86 (1975).

Science has proven that memory is malleable. The body of eyewitness identification research further reveals that an array

of variables can affect and dilute memory and lead to misidentifications.

Scientific literature divides those variables into two categories: system and estimator variables. System variables are factors like lineup procedures which are within the control of the criminal justice system. Gary L. Wells, Applied Eyewitness-Testimony Research: System Variables and Estimator Variables, 36 J. Personality & Soc. Psychol. 1546, 1546 (1978). Estimator variables are factors related to the witness, the perpetrator, or the event itself -- like distance, lighting, or stress -- over which the legal system has no control. Ibid.

We review each of those variables in turn. For each, we address relevant scientific evidence, the Special Master's findings, and instances where the State takes issue with those findings.

We summarize findings for each of those variables consistent with the proper standards for reviewing special-master reports and scientific evidence. Courts generally defer to a special master's credibility findings regarding the testimony of expert witnesses. State v. Chun, 194 N.J. 54, 96 (2008) (citing State v. Locurto, 157 N.J. 463, 471 (1999)). We evaluate a special master's factual findings

> in the same manner as we would the findings and conclusions of a judge sitting as a finder of fact. We therefore accept the

> fact findings to the extent that they are supported by substantial credible evidence in the record, but we owe no particular deference to the legal conclusions of the Special Master.
>
> [Id. at 93 (citations omitted).]

Scientific theories can be accepted as reliable when they are "based on a sound, adequately-founded scientific methodology involving data and information of the type reasonably relied on by experts in the scientific field." State v. Moore, 188 N.J. 182, 206 (2006) (quoting Rubanick v. Witco Chem. Corp., 125 N.J. 421, 449 (1991)); see also Hisenaj v. Kuehner, 194 N.J. 6, 17 (2008). In general, proponents can prove the reliability of scientific evidence by offering "(1) the testimony of knowledgeable experts; (2) authoritative scientific literature; [and] (3) persuasive judicial decisions which acknowledge such general acceptance of expert testimony." Rubanick, supra, 125 N.J. at 432 (internal citation and quotation marks omitted); see Moore, supra, 188 N.J. at 206. We also look for general acceptance of scientific evidence within the relevant scientific community. Chun, supra, 194 N.J. at 91 (citing State v. Harvey, 151 N.J. 117, 169-70 (1997) (citing Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923) (remaining citations omitted))).

A. System Variables

We begin with variables within the State's control.

1. Blind Administration

An identification may be unreliable if the lineup procedure is not administered in double-blind or blind fashion. Double-blind administrators do not know who the actual suspect is. Blind administrators are aware of that information but shield themselves from knowing where the suspect is located in the lineup or photo array.

Dr. Wells testified that double-blind lineup administration is "the single most important characteristic that should apply to eyewitness identification" procedures. Its purpose is to prevent an administrator from intentionally or unintentionally influencing a witness' identification decision.

Research has shown that lineup administrators familiar with the suspect may leak that information "by consciously or unconsciously communicating to witnesses which lineup member is the suspect." See Sarah M. Greathouse & Margaret Bull Kovera, Instruction Bias and Lineup Presentation Moderate the Effects of Administrator Knowledge on Eyewitness Identification, 33 Law & Hum. Behav. 70, 71 (2009). Psychologists refer to that phenomenon as the "expectancy effect": "the tendency for experimenters to obtain results they expect . . . because they have helped to shape that response." Robert Rosenthal & Donald B. Rubin, Interpersonal Expectancy Effects: The First 345 Studies, 3 Behav. & Brain Sci. 377, 377 (1978). In a seminal

meta-analysis of 345 studies across eight broad categories of behavioral research, researchers found that "[t]he overall probability that there is no such thing as interpersonal expectancy effects is near zero." Ibid.

Even seemingly innocuous words and subtle cues -- pauses, gestures, hesitations, or smiles -- can influence a witness' behavior. Ryann M. Haw & Ronald P. Fisher, Effects of Administrator-Witness Contact on Eyewitness Identification Accuracy, 89 J. Applied Psychol. 1106, 1107 (2004); see also Steven E. Clark et al., Lineup Administrator Influences on Eyewitness Identification Decisions, 15 J. Experimental Psychol.: Applied 63, 66-73 (2009). Yet the witness is often unaware that any cues have been given. See Clark et al., supra, at 72.

The consequences are clear: a non-blind lineup procedure can affect the reliability of a lineup because even the best-intentioned, non-blind administrator can act in a way that inadvertently sways an eyewitness trying to identify a suspect. An ideal lineup administrator, therefore, is someone who is not investigating the particular case and does not know who the suspect is.

The State understandably notes that police departments, no matter their size, have limited resources, and those limits can make it impractical to administer lineups double-blind in all

cases. An alternative technique, which Dr. Wells referred to as the "envelope method," helps address that challenge. It relies on single-blind administration: an officer who knows the suspect's identity places single lineup photographs into different envelopes, shuffles them, and presents them to the witness. The officer/administrator then refrains from looking at the envelopes or pictures while the witness makes an identification. This "blinding" technique is cost-effective and can be used when resource constraints make it impractical to perform double-blind administration.

We find that the failure to perform blind lineup procedures can increase the likelihood of misidentification.

2. Pre-identification Instructions

Identification procedures should begin with instructions to the witness that the suspect may or may not be in the lineup or array and that the witness should not feel compelled to make an identification. There is a broad consensus for that conclusion. The Attorney General Guidelines currently include the instruction; the Special Master considers it "uncontroversial"; and the State agrees that "[w]itness instructions are regarded as one of the most useful techniques for enhancing the reliability of identifications" (quoting the Special Master).

Pre-lineup instructions help reduce the relative judgment phenomenon described in section III. Without an appropriate

warning, witnesses may misidentify innocent suspects who look more like the perpetrator than other lineup members.

The scientists agree. In two meta-analyses, they found that telling witnesses in advance that the suspect may not be present in the lineup, and that they need not make a choice, led to more reliable identifications in target-absent lineups. See Nancy Mehrkens Steblay, Social Influence in Eyewitness Recall: A Meta-Analytic Review of Lineup Instruction Effects, 21 Law & Hum. Behav. 283, 285-86, 294 (1997); Steven E. Clark, A Re-examination of the Effects of Biased Lineup Instructions in Eyewitness Identification, 29 Law & Hum. Behav. 395, 418-20 (2005). In one experiment, 45% more people chose innocent fillers in target-absent lineups when administrators failed to warn that the suspect may not be there. See Roy S. Malpass & Patricia G. Devine, Eyewitness Identification: Lineup Instructions and the Absence of the Offender, 66 J. Applied Psychol. 482, 485 (1981).

The failure to give proper pre-lineup instructions can increase the risk of misidentification.

3. Lineup Construction

The way that a live or photo lineup is constructed can also affect the reliability of an identification. Properly constructed lineups test a witness' memory and decrease the chance that a witness is simply guessing.

A number of features affect the construction of a fair lineup. First, the Special Master found that "mistaken identifications are more likely to occur when the suspect stands out from other members of a live or photo lineup." See Roy S. Malpass et al., Lineup Construction and Lineup Fairness, in 2 The Handbook of Eyewitness Psychology: Memory for People, at 155, 156 (R.C.L. Lindsay et al. eds., 2007). As a result, a suspect should be included in a lineup comprised of look-alikes. The reason is simple: an array of look-alikes forces witnesses to examine their memory. In addition, a biased lineup may inflate a witness' confidence in the identification because the selection process seemed easy. See David F. Ross et al., When Accurate and Inaccurate Eyewitnesses Look the Same: A Limitation of the 'Pop-Out' Effect and the 10- to 12-Second Rule, 21 Applied Cognitive Psychol. 677, 687 (2007); Gary L. Wells & Amy L. Bradfield, Measuring the Goodness of Lineups: Parameter Estimation, Question Effects, and Limits to the Mock Witness Paradigm, 13 Applied Cognitive Psychol. S27, S30 (1999).

Second, lineups should include a minimum number of fillers. The greater the number of choices, the more likely the procedure will serve as a reliable test of the witness' ability to distinguish the culprit from an innocent person. As Dr. Wells testified, no magic number exists, but there appears to be general agreement that a minimum of five fillers should be used.

See Nat'l Inst. of Justice, U.S. Dep't of Justice, Eyewitness Evidence: A Guide for Law Enforcement 29 (1999); Attorney General Guidelines, supra, at 2.

Third, based on the same reasoning, lineups should not feature more than one suspect. As the Special Master found, "if multiple suspects are in the lineup, the reliability of a positive identification is difficult to assess, for the possibility of 'lucky' guesses is magnified."

The record is unclear as to whether the use of fillers that match a witness' pre-lineup description is more reliable than fillers that resemble an actual suspect (to the extent there is a difference between the two). Compare Steven E. Clark & Jennifer L. Tunnicliff, Selecting Lineup Foils in Eyewitness Identification Experiments: Experimental Control and Real-World Simulation, 25 Law & Hum. Behav. 199, 212 (2001), and Gary L. Wells et al., The Selection of Distractors for Eyewitness Lineups, 78 J. Applied Psychol. 835, 842 (1993), with Stephen Darling et al., Selection of Lineup Foils in Operational Contexts, 22 Applied Cognitive Psychol. 159, 165-67 (2008). Further research may help clarify this issue.

We note that the Attorney General Guidelines require that fillers "generally fit the witness' description" and that "[w]hen 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." Attorney General Guidelines, supra, at 2-3; see also R.C.L. Lindsay et al., Default Values in Eyewitness Descriptions, 18 Law & Hum. Behav. 527, 528 (1994) ("Innocent suspects may be at risk when the witness provides a limited or vague description of the criminal and the lineup foils, although selected to match the description, are noticeably different from the suspect in appearance.").

Of course, all lineup procedures must be recorded and preserved in accordance with the holding in Delgado, supra, 188 N.J. at 63, to ensure that parties, courts, and juries can later assess the reliability of the identification.

We find that courts should consider whether a lineup is poorly constructed when evaluating the admissibility of an identification. When appropriate, jurors should be told that poorly constructed or biased lineups can affect the reliability of an identification and enhance a witness' confidence.

4. Avoiding Feedback and Recording Confidence

Information received by witnesses both before and after an identification can affect their memory. The earlier discussion of Dr. Loftus' study -- in which she asked students how fast a car was going when it passed a non-existent barn -- revealed how

memories can be altered by pre-identification remarks. Loftus, Leading Questions and the Eyewitness Report, supra, at 566.

Confirmatory or post-identification feedback presents the same risks. It occurs when police signal to eyewitnesses that they correctly identified the suspect. That confirmation can reduce doubt and engender a false sense of confidence in a witness. Feedback can also falsely enhance a witness' recollection of the quality of his or her view of an event.

There is substantial research about confirmatory feedback. A meta-analysis of twenty studies encompassing 2,400 identifications found that witnesses who received feedback "expressed significantly more . . . confidence in their decision compared with participants who received no feedback." Douglass & Steblay, supra, at 863. The analysis also revealed that "those who receive a simple post-identification confirmation regarding the accuracy of their identification significantly inflate their reports to suggest better witnessing conditions at the time of the crime, stronger memory at the time of the lineup, and sharper memory abilities in general." Id. at 864-65; see also Gary L. Wells & Amy L. Bradfield, "Good, You Identified the Suspect": Feedback to Eyewitnesses Distorts Their Reports of the Witnessing Experience, 83 J. Applied Psychol. 360 (1998).

The effects of confirmatory feedback may be the same even when feedback occurs forty-eight hours after an identification. Gary L. Wells et al., Distorted Retrospective Eyewitness Reports as Functions of Feedback and Delay, 9 J. Experimental Psychol.: Applied 42, 49-50 (2003). And those effects can be lasting. See Jeffrey S. Neuschatz et al., The Effects of Post-Identification Feedback and Age on Retrospective Eyewitness Memory, 19 Applied Cognitive Psychol. 435, 449 (2005).

The Court concluded in Romero, supra, "that a witness's level of confidence, standing alone, may not be an indication of the reliability of the identification." 191 N.J. at 76. The hearing confirmed that observation. The Special Master found that eyewitness confidence is generally an unreliable indicator of accuracy, but he acknowledged research showing that highly confident witnesses can make accurate identifications 90% of the time. The State places great weight on that research. See, e.g., Neil Brewer & Gary L. Wells, The Confidence-Accuracy Relationship in Eyewitness Identification: Effects of Lineup Instructions, Foil Similarity, and Target-Absent Base Rates, 12 J. Experimental Psychol.: Applied 11, 15 (2006); Siegfried Ludwig Sporer et al., Choosing, Confidence, and Accuracy: A Meta-Analysis of the Confidence-Accuracy Relation in Eyewitness Identification Studies, 118 Psychol. Bull. 315, 315-19, 322 (1995); see also Gary L. Wells &

Elizabeth A. Olson, Eyewitness Testimony, 54 Ann. Rev. Psychol. 277, 283-84 (2003) (noting complexity of issue).[7]

We glean certain principles from this information. Confirmatory feedback can distort memory. As a result, to the extent confidence may be relevant in certain circumstances, it must be recorded in the witness' own words before any possible feedback. To avoid possible distortion, law enforcement officers should make a full record -- written or otherwise -- of the witness' statement of confidence once an identification is made. Even then, feedback about the individual selected must be avoided.

We rely on our supervisory powers under Article VI, Section 2, Paragraph 3 of the State Constitution in requiring that practice. See Delgado, supra, 188 N.J. at 63 (requiring written record of identification procedure).

To be sure, concerns about feedback are not limited to law enforcement officers. As discussed below, confirmatory feedback from non-State actors can also affect the reliability of identifications and witness confidence. See infra at section

[7] This section focuses only on post-identification confidence. Meta-analysis shows that eyewitness confidence in the ability to make an identification before viewing a lineup does not correlate with accuracy. See Brian L. Cutler & Steven D. Penrod, Forensically Relevant Moderators of the Relation Between Eyewitness Identification Accuracy and Confidence, 74 J. Applied Psychol. 650, 652 (1989).

VI.B.9. See, e.g., C.A. Elizabeth Luus & Gary L. Wells, The Malleability of Eyewitness Confidence: Co-Witness and Perseverance Effects, 79 J. Applied Psychol. 714, 717-18 (1994).

Our focus at this point, though, is on system variables. To reiterate, we find that feedback affects the reliability of an identification in that it can distort memory, create a false sense of confidence, and alter a witness' report of how he or she viewed an event.

5. Multiple viewings

Viewing a suspect more than once during an investigation can affect the reliability of the later identification. The problem, as the Special Master found, is that successive views of the same person can make it difficult to know whether the later identification stems from a memory of the original event or a memory of the earlier identification procedure.

It is typical for eyewitnesses to look through mugshot books in search of a suspect. Investigations may also involve multiple identification procedures. Based on the record, there is no impact on the reliability of the second identification procedure "when a picture of the suspect was not present in photographs examined earlier." Gunter Koehnken et al., Forensic Applications of Line-Up Research, in Psychological Issues in Eyewitness Identification 205, 218 (Siegfried L. Sporer et al. eds., 1996).

Multiple identification procedures that involve more than one viewing of the same suspect, though, can create a risk of "mugshot exposure" and "mugshot commitment." Mugshot exposure is when a witness initially views a set of photos and makes no identification, but then selects someone -- who had been depicted in the earlier photos -- at a later identification procedure. A meta-analysis of multiple studies revealed that although 15% of witnesses mistakenly identified an innocent person viewed in a lineup for the first time, that percentage increased to 37% if the witness had seen the innocent person in a prior mugshot. Kenneth A. Deffenbacher et al., Mugshot Exposure Effects: Retroactive Interference, Mugshot Commitment, Source Confusion, and Unconscious Transference, 30 Law & Hum. Behav. 287, 299 (2006).

Mugshot commitment occurs when a witness identifies a photo that is then included in a later lineup procedure. Studies have shown that once witnesses identify an innocent person from a mugshot, "a significant number" then "reaffirm[] their false identification" in a later lineup -- even if the actual target is present. See Koehnken et al., supra, at 219.

Thus, both mugshot exposure and mugshot commitment can affect the reliability of the witness' ultimate identification and create a greater risk of misidentification. As a result,

law enforcement officials should attempt to shield witnesses from viewing suspects or fillers more than once.

6. Simultaneous v. Sequential Lineups

Lineups are presented either simultaneously or sequentially. Traditional, simultaneous lineups present all suspects at the same time, allowing for side-by-side comparisons. In sequential lineups, eyewitnesses view suspects one at a time.

Defendant and amici submit that sequential lineups are preferable because they lead to fewer misidentifications when the culprit is not in the lineup. The Attorney General Guidelines recommend that sequential lineups be utilized when possible, but the State also points to recent studies that have called that preference into doubt. Because the science supporting one procedure over the other remains inconclusive, we are unable to find a preference for either.

The strongest support for sequential lineups comes from a 2001 meta-analysis comparing data from more than 4,000 lineup experiments. See Nancy Steblay et al., Eyewitness Accuracy Rates in Sequential and Simultaneous Lineup Presentations: A Meta-Analytic Comparison, 25 Law & Hum. Behav. 459 (2001). Across studies, simultaneous procedures produced more of both accurate and inaccurate identifications, and sequential procedures produced fewer misidentifications in target-absent

lineups. Id. at 466, 468-69. In other words, witnesses were more likely to make selections -- accurate and inaccurate -- with simultaneous lineups, and they made fewer, but more accurate, identifications with sequential, target-absent lineups.

Some experts believe that the theory of relative judgment helps explain the results; with sequential lineups, witnesses cannot compare photos and choose the lineup member that best matches their memory. See id. at 469. Those researchers note that "[t]o the extent any difference . . . is due to correct guessing, there is no reason to recommend simultaneous lineups." Ibid.

Other experts, including Dr. Malpass, are unconvinced. They believe that researchers have not yet clearly shown that sequential presentation is the "active ingredient" in reducing misidentifications. Roy S. Malpass et al., Public Policy and Sequential Lineups, 14 Legal & Criminological Psychol. 1, 5-6 (2009); Dawn McQuiston-Surrett et al., Sequential vs. Simultaneous Lineups: A Review of Methods, Data, and Theory, 12 Psychol. Pub. Pol'y & L. 137, 163 (2006) ("[W]e believe that current explanations for why sequential presentation should reduce both mistaken identifications and correct identifications are underdeveloped."); see also Scott D. Gronlund et al., Robustness of the Sequential Lineup Advantage, 15 J.

Experimental Psychol.: Applied 140, 149 (2009) ("Based on our study [of more than 2,000 participants], the sequential advantage does not appear to be a robust finding.").[8]

As research in this field continues to develop, a clearer answer may emerge. For now, there is insufficient, authoritative evidence accepted by scientific experts for a court to make a finding in favor of either procedure. See Rubanick, supra, 125 N.J. at 432, 449. As a result, we do not limit either one at this time.

7. Composites

When a suspect is unknown, eyewitnesses sometimes work with artists who draw composite sketches. Composites can also be prepared with the aid of computer software or non-computerized "tool kits" that contain picture libraries of facial features. Gary L. Wells & Lisa E. Hasel, Facial Composite Production by Eyewitnesses, 16 Current Directions Psychol. Sci. 6, 6-7 (2007).

As the Special Master observed, based on the record, "composites produce poor results." In one study, college freshman used computer software to generate composites of students and teachers from their high schools. Margaret Bull Kovera et al., Identification of Computer-Generated Facial

[8] We do not consider the disputed Illinois field study, see Sheri H. Mecklenburg, Ill. Police Dep't, Report to the Legislature of the State of Illinois: The Illinois Pilot Program on Sequential Double-Blind Identification Procedures (2006), referred to supra at ___ n.5 (slip op. at 43 n.5).

Composites, 82 J. Applied Psychol. 235, 239 (1997). Different students who had attended the same schools were only able to name 3 of the 500 people depicted in the composites. Id. at 241. But see Wells & Hasel, supra, at 6 (acknowledging rarity of studies comparing sketch artists, whose skills vary widely, to computer systems).

Researchers attribute those results to a mismatch between how composites are made and how memory works. See Wells & Hasel, supra, at 9. Evidence suggests that people perceive and remember faces "holistically" and not "at the level of individual facial features." Ibid. Thus, creating a composite feature-by-feature may not comport with the holistic way that memories for faces "are generally processed, stored, and retrieved." See ibid.

It is not clear, though, what effect the process of making a composite has on a witness' memory -- that is, whether it contaminates or confuses a witness' memory of what he or she actually saw. Compare Gary L. Wells et al., Building Face Composites Can Harm Lineup Identification Performance, 11 J. Experimental Psychol.: Applied 147, 148, 154 (2005) ("that building a composite significantly lowered accuracy for identifying the original face"), with Michael A. Mauldin & Kenneth R. Laughery, Composite Production Effects on Subsequent Facial Recognition, 66 J. Applied Psychol. 351, 355 (1981)

(finding "[w]hen subjects produce a[] . . . composite . . . they are more likely to recognize the target face in a subsequent recognition task").

As Dr. Wells acknowledged, "[t]he sparse, underpowered, and inconsistent literature on the effects of composite production on later recognition stands in contrast to the import of the question." Wells et al., Building Face Composites Can Harm Lineup Identification Performance, supra, at 148. We also note that researchers "are not yet prepared to argue that the use of composites should be significantly curtailed in criminal investigations." Id. at 155.

Without more accepted research, courts cannot make a finding on the effect the process of making a composite has on a witness. See Rubanick, supra, 125 N.J. at 432, 449. We thus do not limit the use of composites in investigations.

8. Showups

Showups are essentially single-person lineups: a single suspect is presented to a witness to make an identification. Showups often occur at the scene of a crime soon after its commission. The Special Master noted that they are a "useful -- and necessary -- technique when used in appropriate circumstances," but they carry their "own risks of misidentifications."

By their nature, showups are suggestive and cannot be performed blind or double-blind. Nonetheless, as the Special Master found, "the risk of misidentification is not heightened if a showup is conducted immediately after the witnessed event, ideally within two hours" because "the benefits of a fresh memory seem to balance the risks of undue suggestion."

We have previously found showups to be "inherently suggestive," see Herrera, supra, 187 N.J. at 504, and other states have limited the admissibility of showup identifications. In Wisconsin, evidence of a showup is inadmissible unless, based on the totality of circumstances, the showup was necessary. State v. Dubose, 699 N.W.2d 582, 584-85 (Wis. 2005). Courts in Massachusetts require that there be "good reason for the use of a showup." Commonwealth v. Martin, 850 N.E.2d 555, 562-63 (Mass. 2006). In New York, showups at police stations are presumptively suggestive and are suppressed "unless exigency warrants otherwise." State v. Duuvon, 571 N.E.2d 654, 656 (N.Y. 1991) (citations omitted).

Studies that have evaluated showup identifications illustrate that the timeframe for their reliability appears relatively small. A Canadian field experiment that analyzed results from more than 500 identifications revealed that photo showups performed within minutes of an encounter were just as accurate as lineups. A. Daniel Yarmey et al., Accuracy of

Eyewitness Identifications in Showups and Lineups, 20 Law & Hum. Behav. 459, 464 (1996). Two hours after the encounter, though, 58% of witnesses failed to reject an "innocent suspect" in a photo showup, as compared to 14% in target-absent photo lineups. Ibid.

Researchers have also found that "false identifications are more numerous for showups [compared to lineups] when an innocent suspect resembles the perpetrator." See Nancy Steblay et al., Eyewitness Accuracy Rates in Police Showup and Lineup Presentations: A Meta-Analytic Comparison, 27 Law & Hum. Behav. 523, 523 (2003) (conducting meta-analysis). In addition, research reveals that showups increase the risk that witnesses will base identifications more on similar distinctive clothing than on similar facial features. See Jennifer E. Dysart et al., Show-ups: The Critical Issue of Clothing Bias, 20 Applied Cognitive Psychol. 1009, 1019 (2006); see also Yarmey et al., supra, at 461, 470 (showing greater likelihood of misidentification when culprit and innocent suspect looked alike and wore same clothing).

Experts believe the main problem with showups is that -- compared to lineups -- they fail to provide a safeguard against witnesses with poor memories or those inclined to guess, because every mistaken identification in a showup will point to the suspect. In essence, showups make it easier to make mistakes.

Thus, the record casts doubt on the reliability of showups conducted more than two hours after an event, which present a heightened risk of misidentification. As with lineups, showup administrators should instruct witnesses that the person they are about to view may or may not be the culprit and that they should not feel compelled to make an identification. That said, lineups are a preferred identification procedure because we continue to believe that showups, while sometimes necessary, are inherently suggestive. See Herrera, supra, 187 N.J. at 504.

B. Estimator variables

Unlike system variables, estimator variables are factors beyond the control of the criminal justice system. See Wells, Applied Eyewitness-Testimony Research: System Variables and Estimator Variables, supra, at 1546. They can include factors related to the incident, the witness, or the perpetrator. Estimator variables are equally capable of affecting an eyewitness' ability to perceive and remember an event. Although the factors can be isolated and tested in lab experiments, they occur at random in the real world.

1. Stress

Even under the best viewing conditions, high levels of stress can diminish an eyewitness' ability to recall and make an accurate identification. The Special Master found that "while moderate levels of stress improve cognitive processing and might

improve accuracy, an eyewitness under high stress is less likely to make a reliable identification of the perpetrator." The State agrees that high levels of stress are more likely than low levels to impair an identification.

Scientific research affirms that conclusion. A meta-analysis of sixty-three studies showed "considerable support for the hypothesis that high levels of stress negatively impact both accuracy of eyewitness identification as well as accuracy of recall of crime-related details." See Deffenbacher et al., A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory, supra, at 687, 699.

One field experiment tested the impact of stress on the memories of military personnel. See Charles A. Morgan III et al., Accuracy of Eyewitness Memory for Persons Encountered During Exposure to Highly Intense Stress, 27 Int'l J.L. & Psychiatry 265 (2004). More than 500 active-duty military personnel, with an average of four years in the service, experienced two types of interrogation after twelve hours of confinement in survival school training: "a high-stress interrogation (with real physical confrontation) and a low-stress interrogation (without physical confrontation)." Id. at 267-68. Both interrogations lasted about 40 minutes. Id. at 268. Twenty-four hours later, the subjects were shown either a live lineup or a sequential or simultaneous photo array, and

asked to identify their interrogators. Id. at 269-70.

Across the procedures, subjects performed more poorly when they identified their high-stress interrogators. Id. at 272. For example, when viewing live line-ups, 30% of subjects accurately identified high-stress interrogators, but 62% did so for low-stress interrogators. Ibid. The study's authors concluded that

> [c]ontrary to the popular conception that most people would never forget the face of a clearly seen individual who had physically confronted them and threatened them for more than 30 min[utes], . . . [t]hese data provide robust evidence that eyewitness memory for persons encountered during events that are personally relevant, highly stressful, and realistic in nature may be subject to substantial error.
>
> [Id. at 274.]

Although the study was conducted under a rather different setting, all three experts at the hearing considered its findings in the context of eyewitness evidence.

We find that high levels of stress are likely to affect the reliability of eyewitness identifications. There is no precise measure for what constitutes "high" stress, which must be assessed based on the facts presented in individual cases.

2. Weapon Focus

When a visible weapon is used during a crime, it can distract a witness and draw his or her attention away from the

culprit. "Weapon focus" can thus impair a witness' ability to make a reliable identification and describe what the culprit looks like if the crime is of short duration.

A meta-analysis of nineteen weapon-focus studies that involved more than 2,000 identifications found a small but significant effect: an average decrease in accuracy of about 10% when a weapon was present. Nancy M. Steblay, A Meta-Analytic Review of the Weapon Focus Effect, 16 Law & Hum. Behav. 413, 415-17 (1992). In a separate study, half of the witnesses observed a person holding a syringe in a way that was personally threatening to the witness; the other half saw the same person holding a pen. Anne Maass & Gunther Koehnken, Eyewitness Identification: Simulating the "Weapon Effect", 13 Law & Hum. Behav. 397, 401-02 (1989). Sixty-four percent of witnesses from the first group misidentified a filler from a target-absent lineup, compared to 33% from the second group. See id. at 405; see also Kerri L. Pickel, Remembering and Identifying Menacing Perpetrators: Exposure to Violence and the Weapon Focus Effect, in 2 The Handbook of Eyewitness Psychology: Memory for People, supra, at 339, 353-54 (noting that "unusual items [like weapons] attract attention").

Weapon focus can also affect a witness' ability to describe a perpetrator. A meta-analysis of ten studies showed that "weapon-absent condition[s] generated significantly more

accurate descriptions of the perpetrator than did the weapon-present condition." Steblay, A Meta-Analytic Review of the Weapon Focus Effect, supra, at 417.

The duration of the crime is also an important consideration. Dr. Steblay concluded that weapon-focus studies speak to real-world "situations in which a witness observes a threatening object . . . in an event of short duration." Id. at 421. As Dr. Wells testified, the longer the duration, the more time the witness has to adapt to the presence of a weapon and focus on other details.

Thus, when the interaction is brief, the presence of a visible weapon can affect the reliability of an identification and the accuracy of a witness' description of the perpetrator.

3. Duration

Not surprisingly, the amount of time an eyewitness has to observe an event may affect the reliability of an identification. The Special Master found that "while there is no minimum time required to make an accurate identification, a brief or fleeting contact is less likely to produce an accurate identification than a more prolonged exposure." See Colin G. Tredoux et al., Eyewitness Identification, in 1 Encyclopedia of Applied Psychology 875, 877 (Charles Spielberger ed., 2004).

There is no measure to determine exactly how long a view is needed to be able to make a reliable identification. Dr.

Malpass testified that very brief but good views can produce accurate identifications, and Dr. Wells suggested that the quality of a witness' memory may have as much to do with the absence of other distractions as with duration.

Whatever the threshold, studies have shown, and the Special Master found, "that witnesses consistently tend to overestimate short durations, particularly where much was going on or the event was particularly stressful." See, e.g., Elizabeth F. Loftus et al., Time Went by So Slowly: Overestimation of Event Duration by Males and Females, 1 Applied Cognitive Psychol. 3, 10 (1987).

4. Distance and Lighting

It is obvious that a person is easier to recognize when close by, and that clarity decreases with distance. We also know that poor lighting makes it harder to see well. Thus, greater distance between a witness and a perpetrator and poor lighting conditions can diminish the reliability of an identification.

Scientists have refined those common-sense notions with further study. See, e.g., R.C.L. Lindsay et al., How Variations in Distance Affect Eyewitness Reports and Identification Accuracy, 32 Law & Hum. Behav. 526 (2008). Research has also shown that people have difficulty estimating distances. See, e.g., id. at 533.

5. Witness Characteristics

Characteristics like a witness' age and level of intoxication can affect the reliability of an identification.

The Special Master found that "the effects of alcohol on identification accuracy show that high levels of alcohol promote false identifications" and that "low alcohol intake produces fewer misidentifications than high alcohol intake." See also Jennifer E. Dysart et al., The Intoxicated Witness: Effects of Alcohol on Identification Accuracy from Showups, 87 J. Applied Psychol. 170, 174 (2002). That finding is undisputed.

The Special Master also found that "[a] witness's age . . . bears on the reliability of an identification." A meta-analysis has shown that children between the ages of nine and thirteen who view target-absent lineups are more likely to make incorrect identifications than adults. See Joanna D. Pozzulo & R.C.L. Lindsay, Identification Accuracy of Children Versus Adults: A Meta-Analysis, 22 Law & Hum. Behav. 549, 563, 565 (1998). Showups in particular "are significantly more suggestive or leading with children." See Jennifer E. Dysart & R.C.L. Lindsay, Show-up Identifications: Suggestive Technique or Reliable Method?, in 2 The Handbook of Eyewitness Psychology: Memory for People 137, 147 (2007).

Some research also shows that witness accuracy declines with age. Across twelve studies, young witnesses -- ranging

from nineteen to twenty-four years old -- were more accurate when viewing target-absent lineups than older witnesses -- ranging from sixty-eight to seventy-four years old. See James C. Bartlett & Amina Memon, Eyewitness Memory in Young and Older Adults, in 2 The Handbook of Eyewitness Psychology: Memory for People, supra, at 309, 317-19. On average, 53% of young witnesses recognized that the target was not in the lineup, compared to only 31% of older witnesses. Id. at 318.

But the target's age may matter as well. As Dr. Penrod testified, "there's an own-age bias," meaning that witnesses are "better at recognizing people of [their] own age than . . . people of other ages." That effect may appear in studies that use college-age students as targets, for example. See id. at 321-23 (concluding that "young adults show better memory for young faces . . . than older faces, whereas seniors show either no effect or the opposite effect"); see also Melissa Boyce et al., Belief of Eyewitness Identification Evidence, in 2 The Handbook of Eyewitness Psychology: Memory for People, supra, at 501, 512 ("Perhaps people should only use age as a factor in deciding whether to believe an eyewitness if there is a large age difference between the witness and the suspect.").

Thus, the data about memory and older witnesses is more nuanced, according to the scientific literature. In addition, there was little other testimony at the hearing on the topic.

Based on the record before us, we cannot conclude that a standard jury instruction questioning the reliability of identifications by all older eyewitnesses would be appropriate for use in all cases.

6. Characteristics of Perpetrator

Disguises and changes in facial features can affect a witness' ability to remember and identify a perpetrator. The Special Master found that "[d]isguises (e.g., hats, sunglasses, masks) are confounding to witnesses and reduce the accuracy of identifications." According to the State, those findings are "so well-known that criminals employ them in their work."

Disguises as simple as hats have been shown to reduce identification accuracy. See Brian L. Cutler et al., Improving the Reliability of Eyewitness Identification: Putting Context into Context, 72 J. Applied Psychol. 629, 635 (1987).

If facial features are altered between the time of the event and the identification procedure -- if, for example, the culprit grows a beard -- the accuracy of an identification may decrease. See K.E. Patterson & A.D. Baddeley, When Face Recognition Fails, 3 J. Experimental Psychol.: Hum. Learning & Memory 406, 410, 414 (1977).

7. Memory Decay

Memories fade with time. And as the Special Master observed, memory decay "is irreversible"; memories never

improve. As a result, delays between the commission of a crime and the time an identification is made can affect reliability. That basic principle is not in dispute.

A meta-analysis of fifty-three "facial memory studies" confirmed "that memory strength will be weaker at longer retention intervals [the amount of time that passes] than at briefer ones." Kenneth A. Deffenbacher et al., Forgetting the Once-Seen Face: Estimating the Strength of an Eyewitness's Memory Representation, 14 J. Experimental Psychol: Applied 139, 142 (2008). In other words, the more time that passes, the greater the possibility that a witness' memory of a perpetrator will weaken. See Krafka & Penrod, supra, at 65 (finding substantial increase in misidentification rate in target-absent arrays from two to twenty-four hours after event). However, researchers cannot pinpoint precisely when a person's recall becomes unreliable.

8. Race-bias

"A cross-racial identification occurs when an eyewitness is asked to identify a person of another race." Cromedy, supra, 158 N.J. at 120. In Cromedy, after citing multiple social science sources, this Court recognized that a witness may have more difficulty making a cross-racial identification. Id. at 120-23, 131.

A meta-analysis conducted after Cromedy, involving thirty-nine studies and nearly 5,000 identifications, confirmed the Court's prior finding. See Christian A. Meissner & John C. Brigham, Thirty Years of Investigating the Own-Race Bias in Memory for Faces: A Meta-Analytic Review, 7 Psychol. Pub. Pol'y & Law 3, 21 (2001).

Cross-racial recognition continues to be a factor that can affect the reliability of an identification. See also infra at section X.

9. Private Actors

The current Model Jury Charge states that judges should refer to "factors relating to suggestiveness, that are supported by the evidence," including "whether the witness was exposed to opinions, descriptions, or identifications given by other witnesses, to photographs or newspaper accounts, or to any other information or influence that may have affected the independence of his/her identification." Model Jury Charge (Criminal), "Identification: In-Court and Out-of-Court Identifications" (2007). The charge was added after this Court in Herrera invited the Model Jury Charge Committee to consider including express references to suggestibility. Herrera, supra, 187 N.J. at 509-10 (citing State v. Long, 721 P.2d 483 (Utah 1980)). In response, the Committee relied heavily on proposed charging language in Long.

The Model Jury Charge properly reflects that private -- that is, non-State -- actors can affect the reliability of eyewitness identifications, just as the police can. The record on remand supports that conclusion. Studies show that witness memories can be altered when co-eyewitnesses share information about what they observed. Those studies bolster the broader finding "that post-identification feedback does not have to be presented by the experimenter or an authoritative figure (e.g. police officer) in order to affect a witness' subsequent crime-related judgments." See Elin M. Skagerberg, Co-Witness Feedback in Line-ups, 21 Applied Cognitive Psychol. 489, 494 (2007). Feedback and suggestiveness can come from co-witnesses and others not connected to the State.

Co-witness feedback may cause a person to form a false memory of details that he or she never actually observed. In an early study, 200 college students "viewed a film clip, read and evaluated a description of that film ostensibly given by another witness, and wrote out their own description based on their memory of the film." Elizabeth F. Loftus & Edith Greene, Warning: Even Memory for Faces May Be Contagious, 4 Law & Hum. Behav. 323, 328 (1980). The short film depicted a man who parked his car, briefly entered a small grocery store, and upon returning, "got into an argument with a young man who looked as if he were trying to break into the car." Ibid.

Some of the students were shown accurate descriptions of the event, and the rest read descriptions that contained false details. See ibid. Some students, for example, observed a young man with straight hair but then read testimony that described the hair as wavy. Id. at 328-29. "This procedure was intended to simulate the situation where a witness to an event is subsequently exposed, either through conversation or reading a newspaper article, to a version given by another witness." Id. at 324. Results showed that one-third (34%) of students included a false detail -- like wavy hair -- when they later described the target. Id. at 329. By contrast, only 5% of the students who read a completely factual narrative made similar mistakes. Ibid. In a related experiment, "[i]f the other witness referred to a misleading detail [a nonexistent mustache], [69]% of the subjects later 'recognized' an individual with that feature. Control subjects did so far less often (13%)." Id. at 323, 330.

More recent studies have yielded comparable findings. See Lorraine Hope et al., "With a Little Help from My Friends . . .": The Role of Co-Witness Relationship in Susceptibility to Misinformation, 127 Acta Psychologica 476, 481 (2008) (noting that all participants "were susceptible to misinformation from their co-witness and, as a consequence, produced less accurate recall accounts than participants who did not interact with

another witness"); see also Helen M. Paterson & Richard I. Kemp, Comparing Methods of Encountering Post-Event Information: The Power of Co-Witness Suggestion, 20 Applied Cognitive Psychol. 1083, 1083 (2006) ("Results suggest that co-witness information had a particularly strong influence on eyewitness memory, whether encountered through co-witness discussion or indirectly through a third party."); John S. Shaw, III et al., Co-Witness Information Can Have Immediate Effects on Eyewitness Memory Reports, 21 Law. & Hum. Behav. 503, 503, 516 (1997) ("[W]hen participants received incorrect information about a co-witness's response, they were significantly more likely to give that incorrect response than if they received no co-witness information."); Rachel Zajac & Nicola Henderson, Don't It Make My Brown Eyes Blue: Co-Witness Misinformation About a Target's Appearance Can Impair Target-Absent Lineup Performance, 17 Memory 266, 275 (2009) ("[P]articipants who were [wrongly] told by the [co-witness] that the accomplice had blue eyes were significantly more likely than control participants to provide this information when asked to give a verbal description.").

One of the experiments evaluated the effect of the nature of the witnesses' relationships with one another and compared co-witnesses who were strangers, friends, and couples. Hope et al., supra, at 478. The study found that "witnesses who were previously acquainted with their co-witness (as a friend or

romantic partner) were significantly more likely to incorporate information obtained solely from their co-witness into their own accounts." Id. at 481.

Private actors can also affect witness confidence. See Luus & Wells, supra, at 714. In one study, after witnesses made identifications -- all of which were incorrect -- some witnesses were either told that their co-witness made the same or a different identification. Id. at 717. Confidence rose when witnesses were told that their co-witness agreed with them, and fell when co-witnesses disagreed. See id. at 717-18; see also Skagerberg, supra, at 494-95 (showing similar results).

In addition, all three experts, Drs. Malpass, Penrod, and Wells, testified at the remand hearing that co-witnesses can influence memory and recall.

To uncover relevant information about possible feedback from co-witnesses and other sources, we direct that police officers ask witnesses, as part of the identification process, questions designed to elicit (a) whether the witness has spoken with anyone about the identification and, if so, (b) what was discussed. That information should be recorded and disclosed to defendants. We again rely on our supervisory powers under Article VI, Section 2, Paragraph 3 of the State Constitution in requiring those steps. See Delgado, supra, 188 N.J. at 63.

Based on the record, we find that non-State actors like co-

witnesses and other sources of information can affect the independent nature and reliability of identification evidence and inflate witness confidence -- in the same way that law enforcement feedback can. As a result, law enforcement officers should instruct witnesses not to discuss the identification process with fellow witnesses or obtain information from other sources.

We address this issue further in Chen, supra.

10. Speed of Identification

The Special Master also noted that the speed with which a witness makes an identification can be a reliable indicator of accuracy. The State agrees. (Although the factor is not a pure system or estimator variable, we include it at this point for convenience.)

Laboratory studies offer mixed results. Compare Steven M. Smith et al., Postdictors of Eyewitness Errors: Can False Identifications Be Diagnosed?, 85 J. Applied Psychol. 542, 542 (2000) (noting "[d]ecision time and lineup fairness were the best postdictors of accuracy"), and David Dunning & Scott Perretta, Automaticity and Eyewitness Accuracy: A 10- to 12-Second Rule for Distinguishing Accurate from Inaccurate Positive Identifications, 87 J. Applied Psychol. 951, 959 (2002) (finding across four studies that identifications were nearly 90% accurate when witnesses identified targets within ten to twelve

seconds of seeing a lineup), with Ross et al., supra, at 688 (noting that rapid identifications were only 59%, not 90%, accurate and finding twenty-five seconds to be "time boundary" between accurate and inaccurate identifications).

Because of the lack of consensus in the scientific community, we make no finding on this issue. See Rubanick, supra, 125 N.J. at 432, 449. To the extent speed is relevant in any event, researchers also caution that it may only be considered if the lineup is fair and unbiased. See Ross et al., supra, at 688-89.

C. Juror Understanding

Some of the findings described above are intuitive. Everyone knows, for instance, that bad lighting conditions make it more difficult to perceive the details of a person's face. Some findings are less obvious. Although many may believe that witnesses to a highly stressful, threatening event will "never forget a face" because of their intense focus at the time, the research suggests that is not necessarily so. See supra at section VI.B.1.

Using survey questionnaires and mock-jury studies, experts have attempted to discern what lay people understand, and what information about perception and memory are beyond the ken of the average juror. Based on those studies, the Special Master found "that laypersons are largely unfamiliar" with scientific

findings and "often hold beliefs to the contrary." Defendant and amici agree. The State does not. The State argues that the sources the Special Master cited are unreliable, and that jurors generally understand how memory functions and how it can be distorted.

The parties devote much attention to this issue. But the debate relates largely to the need for enhanced jury instructions and the possible use of expert testimony. Left unanswered amidst many objections is this question: if even only a small number of jurors do not appreciate an important, relevant concept, why not help them understand it better with an appropriate jury charge?

Survey questionnaires provide the most direct evidence of what jurors know about memory and eyewitness identifications. Researchers conducting the surveys ask jurors questions about memory and system and estimator variables. The results can then be compared to expert responses in separate surveys.

Survey studies have generated varied results. The Special Master relied on data from a 2006 survey (the "Benton Survey") that asked 111 jurors in Tennessee questions about eyewitness identification and memory. See Tanja Rapus Benton et al., Eyewitness Memory Is Still Not Common Sense: Comparing Jurors, Judges and Law Enforcement to Eyewitness Experts, 20 Applied Cognitive Psychol. 115, 118 (2006). Juror responses differed

from expert responses on 87% of the issues. Id. at 119-21. Among other issues, only 41% of jurors agreed with the importance of pre-lineup instructions, and only 38% to 47% agreed with the effects of the accuracy-confidence relationship, weapon focus, and cross-race bias. Id. at 120. By comparison, about nine of ten experts agreed on the effects of all of those issues. Ibid.

The State disputes the Benton study for various reasons and instead highlights results from Canadian surveys conducted in 2009, which showed a substantially higher level of juror understanding. See J. Don Read & Sarah L. Desmarais, Expert Psychology Testimony on Eyewitness Identification: A Matter of Common Sense?, in Expert Testimony on the Psychology of Eyewitness Identification, at 115, 120-27. The majority of jury-eligible participants in those surveys agreed with experts on the importance of lineup instructions, the accuracy-confidence relationship, cross-race bias, and weapon focus. See id. at 121-22. Still, as the survey authors acknowledged, "substantial differences in knowledge and familiarity between experts and laypersons were readily apparent for 50% of the eyewitness topics." Id. at 127.

Mock-jury studies provide another method to try to discern what jurors know. The State argues that mock-jury research is unreliable because it is not possible to replicate the

atmosphere of a criminal trial in a mock-trial setting. While true, that comment does not justify scuttling the studies entirely. Also, the growing use of mock trials by the private bar undercuts the strength of the assertion. See generally Martha Neil, Practice Makes Perfect: Mock Trials Gain Ground as a Way to Get Inside Track in Real Trial, 89 A.B.A. J. 34 (2003).

The Special Master did cite the studies. In one mock-jury experiment, researchers showed jurors different versions of a videotaped mock trial about an armed robbery of a liquor store. Brian L. Cutler et al., Juror Sensitivity to Eyewitness Identification Evidence, 14 Law & Hum. Behav. 185, 186-87 (1990). To test how sensitive jurors were to the effect of weapon focus, some heard an eyewitness testify that the defendant pointed a gun at her during the robbery, while others heard that the gun was hidden in the robber's jacket. Id. at 188. Similarly, some jurors heard the eyewitness declare that she was 80% confident that she had correctly identified the robber, while others heard that she was 100% confident. Id. at 189. Researchers used similar methods to test reactions to eight other system and estimator variables. See id. at 188-89.

The study revealed that mock-jurors "were insensitive to the effects of disguise, weapon presence, retention interval, suggestive lineup instructions, and procedures used for constructing and carrying out the lineup" but "gave

disproportionate weight to the confidence of the witness." Id. at 190. Stated otherwise, eyewitness confidence "was the most powerful predictor of verdicts" regardless of other variables. Id. at 185. The authors thus concluded that jurors do "not evaluate eyewitness memory in a manner consistent with psychological theory and findings." See id. at 190.

Neither juror surveys nor mock-jury studies can offer definitive proof of what jurors know or believe about memory. But they reveal generally that people do not intuitively understand all of the relevant scientific findings. As a result, there is a need to promote greater juror understanding of those issues.

D. Consensus Among Experts

The Special Master found broad consensus within the scientific community on the relevant scientific issues. Primarily, he found support in a 2001 survey of sixty-four experts, mostly cognitive and social psychologists. See Saul M. Kassin et al., On the "General Acceptance" of Eyewitness Testimony Research: A New Survey of the Experts, 56 Am. Psychologist 405, 407 (2001) (the "Kassin Report"). Ninety-two percent of the participating experts had published articles or books on eyewitness identification, and many in the group had testified as expert witnesses in almost 1,000 court cases, collectively. Id. at 409.

Ninety percent or more of the experts found research on the following topics reliable: suggestive wording; lineup instruction bias; confidence malleability; mugshot bias; post-event information; child suggestivity; alcohol intoxication; and own-race bias. Id. at 412. Seventy to 87% found the following research reliable: weapon focus; the accuracy-confidence relationship; memory decay; exposure time; sequential presentation; showups; description-matched foils; child-witness accuracy; and lineup fairness. Ibid.

The State suggests that some of the experts surveyed in the Kassin Report had motives to overstate the science because they were also forensic consultants who have been paid for testifying at trials. See id. 414-15. As a result, the State discounts the results in the Report. The Report's authors recognized this potential for bias and looked for distinctions between answers provided by "forensic consultants" and the 44% of scientists who had never testified in court. Ibid. The analysis revealed "no significant difference" between the two groups. Id. at 415.

The studies and meta-analyses published in the ten years since the Kassin Report show a growing consensus in certain areas of eyewitness identification research. For example, only 60% of experts in 2001 found research on the relationship between stress and identification accuracy to be reliable. Id. at 412. At the remand hearing, all three experts testified that

results from the military stress experiment, see Morgan III et al., supra, and other studies have reinforced views about the relationship between high stress and the reliability of identifications.

Among the experts who testified on remand, there was broad consensus regarding the Special Master's findings. The State's expert, Dr. Malpass, agreed with nearly all of the conclusions offered by Drs. Wells and Penrod. As Dr. Malpass wrote in 2009, "there is general agreement about the scientific findings of the eyewitness community," as evidenced by meta-analytic reviews, primary texts, and surveys of scientific experts, and "[a] review of these areas suggests that it would be very difficult to sustain the position that many of the findings in research on eyewitness memory lack general agreement within the scientific community." Malpass et al., The Need for Expert Psychological Testimony on Eyewitness Identification, supra, at 15.

VII. Responses to Scientific Studies

Beyond the scientific community, law enforcement and reform agencies across the nation have taken note of the scientific findings. In turn, they have formed task forces and recommended or implemented new procedures to improve the reliability of eyewitness identifications. See, e.g., Ad Hoc Innocence Comm. to Ensure the Integrity of the Criminal Process, Am. Bar Ass'n, Achieving Justice: Freeing the Innocent, Convicting the Guilty

(2006); Int'l Ass'n of Chiefs of Police, supra; Nat'l Inst. of Justice, U.S. Dep't of Justice, Eyewitness Evidence: A Guide for Law Enforcement, supra.

New Jersey has been at the forefront of that effort. In 2001, under the leadership of then-Attorney General John J. Farmer, Jr., New Jersey became "the first state in the Nation to officially adopt the recommendations issued by the Department of Justice" and issue guidelines for preparing and conducting identification procedures. See Letter from Attorney General John J. Farmer, Jr., to All County Prosecutors et al., at 1 (Apr. 18, 2001) (AG Farmer Letter), available at http://www.state.nj.us/lps/dcj/agguide/photoid.pdf.

The Attorney General Guidelines "incorporate[d] more than 20 years of scientific research on memory and interview techniques." Ibid. The preamble describes the document as a list of "best practices." See Attorney General Guidelines, supra, at 1. The list is divided into two broad categories: composing photo or live lineups, and conducting identification procedures. Many, but not all, of the practices measure up to current scientific standards. Although we have discussed parts of the Guidelines in the preceding sections, we summarize them as a whole for the sake of completeness.

The Guidelines applied the following "best practices" to live and photo lineups: "Include only one suspect in each

identification procedure"; select fillers based on the "witness' description of the perpetrator"; if the description is limited, inadequate, or differs significantly from the suspect's appearance, "fillers should resemble the suspect in significant features"; include a minimum of four or five fillers; consider placing the suspect in different lineup positions when conducting more than one lineup in a case with multiple witnesses; and "[a]void reusing fillers in lineups" when showing the same witness a new suspect. Id. at 1-3. When constructing photo lineups, officers should also "[e]nsure that no writings or information concerning previous arrest(s) will be visible to the witness"; "[v]iew the array, once completed, to ensure that the suspect does not unduly stand out"; and "[p]reserve the presentation order of the photo lineup" and the photos themselves. Id. at 2.

The Guidelines also set out specific rules for administering lineups. To avoid administrator feedback, "the person conducting the photo or live lineup identification procedure should be someone other than the primary investigator assigned to the case." Id. at 1. If that is impractical, the non-blind lineup administrator "should be careful to avoid inadvertent signaling to the witness of the 'correct' response." Ibid.

Under the Guidelines, administrators should instruct witnesses "that the perpetrator may not be among those in the photo array or live lineup and, therefore, they should not feel compelled to make an identification." Ibid. The Guidelines also state a preference for sequential over simultaneous lineup presentation. See ibid.

During the procedure, administrators must "[a]void saying anything to the witness that may influence the witness' selection." Id. at 3-6. If the witness makes an identification, officers should "avoid reporting to the witness any information regarding the individual he or she has selected prior to obtaining the witness' statement of certainty." Ibid.

Officers must record the results obtained from the witness. See id. at 7. As part of that process, officers are to record both the outcome of the identification and "the witness' own words regarding how sure he or she is." Ibid. If a witness fails to make an identification, that too should be recorded. Ibid. In addition, officers should instruct witnesses not to discuss the procedure or its results with other witnesses. Id. at 4-7.

The Attorney General Guidelines are thorough and exacting. We once again commend the Attorney General's Office for responding to important social scientific evidence and promoting the reliability of eyewitness identifications. See Delgado,

supra, 188 N.J. at 62; see also Romero, supra, 191 N.J. at 74. Since 2001, when the recommended Guidelines went into effect, they may well have prevented wrongful convictions.

However, the Guidelines are a series of recommended best practices. The Attorney General expressly noted that identifications that do not follow the recommended Guidelines should not be deemed "inadmissible or otherwise in error." AG Farmer Letter, supra, at 3. Although the State argues that the Court should defer to other branches of government to deal with the evolving social scientific landscape, it remains the Court's obligation to guarantee that constitutional requirements are met, and to ensure the integrity of criminal trials. See Romero, supra, 191 N.J. at 74-75 (citing court's supervisory authority under N.J. Const. art. VI, § 2, ¶ 3); Delgado, supra, 188 N.J. at 62 (same); see also State v. Daniels, 182 N.J. 80, 95-96 (2004).

Other state and local authorities have instituted similar changes to their eyewitness identification procedures. In 2005, for example, the Attorney General of Wisconsin issued a set of identification guidelines recommending, among other things, "double-blind, sequential photo arrays and lineups with non-suspect fillers chosen to minimize suggestiveness, non-biased instructions to eyewitnesses, and assessments of confidence immediately after identifications." Office of the Attorney

Gen., Wis. Dep't of Justice, Model Policy and Procedure for Eyewitness Identification 1 (2005); see also Dallas Police Dep't, Dallas Police Department General Order § 304.01 (2009); Denver Police Dep't, Operations Manual § 104.44 (2006); Police Chiefs' Ass'n of Santa Clara County, Line-up Protocol for Law Enforcement (2002).

North Carolina was among the first states to pass legislation mandating, among other things, pre-lineup instructions and blind and sequential lineup administration. See N.C. Gen. Stat. § 15A-284.50 to .53. Illinois, Maryland, Ohio, West Virginia, and Wisconsin have passed similar laws regarding lineup practices. See 725 Ill. Comp. Stat. 5/107A-5; Md. Code Ann., Pub. Safety § 3-506; Ohio Rev. Code Ann. § 2933.83; W. Va. Code Ann. § 62-1E-1 to -3; Wis. Stat. § 175.50.

VIII. Parties' Arguments

The parties and amici submitted voluminous briefs of high quality, both before and after the remand hearing. We summarize their positions without repeating arguments already addressed. In short, defendant and amici endorse the Special Master's factual and scientific findings in their entirety. We have already discussed many of the State's responses to those findings. We now outline the parties' and amici's arguments as to the Appellate Division decision and the viability of the

Manson/Madison framework in light of the record developed on remand.

The State argues vigorously against the Appellate Division's holding that a breach of the Attorney General Guidelines results in a presumption of impermissible suggestiveness. The State contends that such an approach would penalize the Attorney General for adopting Guidelines designed to improve identification practices, and reward defendants who intimidate witnesses. In this case, the State submits, two officers merely tried to reassure a threatened and reluctant witness; they did not attempt to influence the witness' selection of a particular photograph. The State maintains that the Appellate Division's response would hamper this and like prosecutions and hinder policy makers in the future.

As to the current Manson/Madison framework, the State argues that there is insufficient evidence to warrant a change in the familiar procedure for evaluating eyewitness identification evidence. First, the State believes that the likelihood of misidentifications is overstated. See, supra, at section III.

Second, the State offers various arguments as to why the Manson/Madison framework is an adequate construct to evaluate identification evidence before trial: the right to a pretrial Wade hearing is already extensive and requires only "some

showing" of impermissible suggestiveness; the Manson/Madison test is broad enough to incorporate all system and estimator variables; and the Manson/Madison test instructs judges to focus on confidence demonstrated at the time of confrontation, before any post-identification, confirmatory feedback.

Along with Manson/Madison, the State identifies other safeguards that protect against wrongful convictions: the Attorney General Guidelines; pretrial, open-file discovery, see R. 3:13-3; exclusion of highly prejudicial identifications that result from suggestive conduct or words by a private actor under N.J.R.E. 403; jury voir dire; numerous peremptory jury challenges; cross-examination; defense summations; and comprehensive jury instructions.

Because eyewitness identification science is probabilistic -- meaning that it cannot determine if a particular identification is accurate -- the State also argues that the legal system should continue to rely on jurors to assess the credibility of eyewitnesses. To guide juries, the State favors appropriate, flexible jury instructions. The State maintains that expert testimony is not advisable because the relevant subjects are not beyond the ken of the average juror.

Among other things, the State also rejects the use of the analogy that human memory is like trace evidence, which all the other parties advance.

Defendant embraces the decision of the Appellate Division and agrees that a violation of the Attorney General Guidelines should create a presumption of impermissible suggestiveness. With regard to the Manson/Madison test, defendant and amici argue that more than thirty years of scientific evidence undercut the assumptions underlying the Supreme Court's decision in Manson. They believe that for the following reasons, the Manson/Madison framework is insufficient to ensure defendants' due process rights to a fair trial: courts only consider the five reliability factors in Manson/Madison after finding suggestiveness, even though some of those factors may themselves be unreliable because of suggestive police behavior; the framework focuses only on police misconduct despite research that shows estimator variables and feedback from private actors can also affect reliability; its all-or-nothing remedy of suppression is too inflexible; it fails to provide jurors context and guidance; and it does not deter suggestive police procedures.

To correct those flaws, defendant and the ACDL initially proposed two alternative frameworks to replace Manson/Madison. Among other arguments, they analogized to Miranda v. Arizona, 384 U.S. 436, 86 S. Ct. 1602, 16 L. Ed. 2d 694 (1966), and argued that eyewitness evidence should be excluded per se if an

identification procedure violated the Attorney General Guidelines or if a judge found other evidence of suggestiveness.

Consistent with the Special Master's report, they now urge this Court to require a reliability hearing in every case in which the State intends to present identification evidence. At the hearing, they submit that a wide range of system and estimator variables would be relevant, and the State should bear the burden of establishing reliability. In addition, they agree with the Special Master that juries should receive expanded instructions that address specific variables and are tailored to the facts of the case.

The Innocence Project proposes a different scheme along the following lines: defendants would first have to allege that an identification was unreliable; the burden would then shift to the State to prove, in essence, that neither estimator nor system variables rendered the identification unreliable -- to be accomplished through testimony of the eyewitness about the circumstances under which she saw the perpetrator, and proof from law enforcement about the identification procedure used; the burden would next shift back to the defendant to prove by a preponderance of evidence "that there exists a substantial probability of a mistaken identification"; and if the court does not suppress the evidence, defendant could file motions to seek

to limit or redact identification testimony and present expert testimony at trial.

Notably, under the Innocence Project's approach, a violation of the Attorney General Guidelines would be a factor for the trial court -- and juries -- to consider; it would not lead to per se exclusion. At the admissibility hearing, the Innocence Project recommends that trial courts consider both system and estimator variables, and be required to make detailed findings about them; afterward, judges would be in a position before trial to tell the parties which instructions, if any, they plan to give the jury about relevant variables in the case.

Finally, the Innocence Project encourages this Court to adopt comprehensive jury instructions that are easy to understand, so that jurors can evaluate eyewitness evidence appropriately. The Innocence Project maintains that those instructions should be read to the jury both before an eyewitness' testimony and at the conclusion of the case. If at the end of trial the court doubts the accuracy of an identification, the Innocence Project argues that the judge should give a cautionary instruction to treat that evidence with great caution and distrust.

The State argues that the Innocent Project's proposal would invite an unnecessary pretrial fishing expedition in every criminal case involving eyewitness evidence. Instead, the State

contends that the initial burden should remain on defendants to show some evidence of suggestiveness, which the State claims is not an onerous threshold.

IX. Legal Conclusions

A. Scientific Evidence

We find that the scientific evidence presented is both reliable and useful. See Moore, supra, 188 N.J. at 206. Despite arguments to the contrary, we agree with the Special Master that "[t]he science abundantly demonstrates the many vagaries of memory encoding, storage, and retrieval; the malleability of memory; the contaminating effects of extrinsic information; the influence of police interview techniques and identification procedures; and the many other factors that bear on the reliability of eyewitness identifications."

The research presented on remand is not only extensive, but as Dr. Monahan testified, it represents the "gold standard in terms of the applicability of social science research to the law." Experimental methods and findings have been tested and retested, subjected to scientific scrutiny through peer-reviewed journals, evaluated through the lens of meta-analyses, and replicated at times in real-world settings. As reflected above, consensus exists among the experts who testified on remand and within the broader research community. See Chun, supra, 194 N.J. at 91; see also Frye, supra, 293 F. at 1014.

Other courts have accepted eyewitness identification research pertaining to a number of the variables discussed. See, e.g., United States v. Bartlett, 567 F.3d 901, 906 (7th Cir. 2009) (confidence-accuracy relationship and memory decay), cert. denied, ___ U.S. ___, 130 S. Ct. 1137, 175 L. Ed. 971 (2010); United States v. Brownlee, 454 F.3d 131, 142-44 (3d Cir. 2006) ("inherent unreliability" of eyewitness identifications and accuracy-confidence relationship); United States v. Smith, 621 F. Supp. 2d 1207, 1215-17 (M.D. Ala. 2009) (cross-racial identifications, impact of high stress, and feedback); State v. Chapple, 660 P.2d 1208, 1220-22 (Ariz. 1983) (memory decay, stress, feedback, and confidence-accuracy); People v. McDonald, 690 P.2d 709, 718 (Cal. 1984) ("The consistency of the results of [eyewitness identification] studies is impressive, and the courts can no longer remain oblivious to their implications for the administration of justice."), overruled on other grounds by People v. Mendoza, 4 P.3d 265 (Cal. 2000); Benn v. United States, 978 A.2d 1257, 1265-68 (D.C. 2009) (citing expert consensus regarding system and estimator variables); People v. LeGrand, 867 N.E.2d 374, 380 (N.Y. 2007) (confidence-accuracy relationship, feedback, and confidence malleability); State v. Copeland, 226 S.W.3d 287, 299-300, 302 (Tenn. 2007) (weapons effect, stress, cross-racial identification, age, and opportunity to view); State v. Clopten, 223 P.3d 1103, 1113 & n.

22 (Utah 2009) (citing with approval research on multiple system and estimator variables). But see Marquez, supra, 967 A.2d at 77 (finding scientific literature "is far from universal or even well established" and that "research is in great flux") (discussed supra at ___ n.5 (slip op. at 43 n.5)).

This is not our first foray into the realm of eyewitness identification research and its applicability to the law. In Cromedy, this Court relied on numerous social scientific studies when we held that special jury instructions were needed in appropriate cases involving cross-racial identifications. See Cromedy, supra, 158 N.J. at 120-23, 131. We observed that "the empirical data . . . provide[d] an appropriate frame of reference for requiring . . . jury instructions." Id. at 132.

More recently in Romero, supra, this Court held that "there [was] insufficient data to support the conclusion that, as a matter of due process, people of the same race but different ethnicity . . . require a Cromedy instruction whenever they are identified by someone of a different ethnicity." 191 N.J. at 71-72. Of the three studies the Court reviewed, one included a small number of participants and two "did not test for the reliability of identifications of Hispanics by non-Hispanics." Id. at 70-71. The Court distinguished the dearth of social scientific research in the field of cross-ethnic bias from "the

convincing social science data demonstrating the potential unreliability of cross-racial identifications." See id. at 69.

When social scientific experiments in the field of eyewitness identification produce "an impressive consistency in results," those results can constitute adequate data on which to base a ruling. See Cromedy, supra, 158 N.J. at 132. Thus, based on the testimony and ample record developed at the hearing, we recognize that a number of system and estimator variables can affect the reliability of eyewitness identifications. We recount those variables after considering the vitality of the Manson/Madison framework, a question we turn to now.

B. The Manson/Madison Test Needs to Be Revised

When this Court adopted the framework outlined in Manson, it recognized that suggestive police procedures may "so irreparably 'taint[]' the out-of-court and in-court identifications" that a defendant is denied due process. Madison, supra, 109 N.J. at 239. To protect due process concerns, the Manson Court's two-part test rested on three assumptions: (1) that it would adequately measure the reliability of eyewitness testimony; (2) that the test's focus on suggestive police procedure would deter improper practices; and (3) that jurors would recognize and discount untrustworthy

eyewitness testimony. See Manson, supra, 432 U.S. at 112-16, 97 S. Ct. at 2252-54, 53 L. Ed. 2d at 152-55.

We remanded this case to determine whether those assumptions and other factors reflected in the two-part Manson/Madison test are still valid. We conclude from the hearing that they are not.

The hearing revealed that Manson/Madison does not adequately meet its stated goals: it does not provide a sufficient measure for reliability, it does not deter, and it overstates the jury's innate ability to evaluate eyewitness testimony.

First, under Manson/Madison, defendants must show that police procedures were "impermissibly suggestive" before courts can consider estimator variables that also bear on reliability. See Madison, supra, 109 N.J. at 232. As a result, although evidence of relevant estimator variables tied to the Neil v. Biggers factors is routinely introduced at pretrial hearings, their effect is ignored unless there is a finding of impermissibly suggestive police conduct. In this case, for example, the testimony at the Wade hearing related principally to the lineup procedure. Because the court found that the procedure was not "impermissibly suggestive," details about the witness' use of drugs and alcohol, the dark lighting conditions, the presence of a weapon pointed at the witness' chest, and

other estimator variables that affect reliability were not considered at the hearing. (They were explored later at trial.)

Second, under Manson/Madison, if a court finds that the police used impermissibly suggestive identification procedures, the trial judge then weighs the corrupting effect of the process against five "reliability" factors. Id. at 239-40. But three of those factors -- the opportunity to view the crime, the witness' degree of attention, and the level of certainty at the time of the identification -– rely on self-reporting by eyewitnesses; and research has shown that those reports can be skewed by the suggestive procedures themselves and thus may not be reliable. Self-reporting by eyewitnesses is an essential part of any investigation, but when reports are tainted by a suggestive process, they become poor measures in a balancing test designed to bar unreliable evidence.

Third, rather than act as a deterrent, the Manson/Madison test may unintentionally reward suggestive police practices. The irony of the current test is that the more suggestive the procedure, the greater the chance eyewitnesses will seem confident and report better viewing conditions. Courts in turn are encouraged to admit identifications based on criteria that have been tainted by the very suggestive practices the test aims to deter.

Fourth, the Manson/Madison test addresses only one option for questionable eyewitness identification evidence: suppression. Yet few judges choose that ultimate sanction.[9] An all-or-nothing approach does not account for the complexities of eyewitness identification evidence.

Finally, Manson/Madison instructs courts that "the reliability determination is to be made from the totality of the circumstances in the particular case." Id. at 239. In practice, trial judges routinely use the test's five reliability factors as a checklist. The State maintains that courts may consider additional estimator variables. Even if that is correct, there is little guidance about which factors to consider, and courts and juries are often left to their own intuition to decide which estimator variables may be important and how they matter.

[9] The State correctly notes that there is no way to know the precise number of identifications that may have been suppressed at the trial court level, but even the State conceded at oral argument that suppression "does not happen often." We also note that with the exception of one case reversed on appeal, we have found no reported Appellate Division decision since 1977 that reversed a conviction because the trial court failed to suppress identification evidence. State v. Ford, 165 N.J. Super. 249 (1978), rev'd on dissent, 79 N.J. 136 (1979). (The Special Master found one unreported Appellate Division decision, which we do not cite consistent with Rule 1:36-3.)

As a result of those concerns, we now revise the State's framework for evaluating eyewitness identification evidence.[10]

C. Revised Framework

Remedying the problems with the current Manson/Madison test requires an approach that addresses its shortcomings: one that allows judges to consider all relevant factors that affect reliability in deciding whether an identification is admissible; that is not heavily weighted by factors that can be corrupted by suggestiveness; that promotes deterrence in a meaningful way; and that focuses on helping jurors both understand and evaluate the effects that various factors have on memory -- because we recognize that most identifications will be admitted in evidence.

Two principal changes to the current system are needed to accomplish that: first, the revised framework should allow all

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[10] We have no authority, of course, to modify Manson. The expanded protections stem from the due process rights guaranteed under the State Constitution. Compare N.J. Const. art. I, § 1 ("All persons are by nature free and independent, and have certain natural and unalienable rights, among which are those of enjoying and defending life and liberty, of acquiring, possessing, and protecting property, and of pursuing and obtaining safety and happiness."), with U.S. Const. amend. XIV, § 1 ("No State shall . . . deprive any person of life, liberty, or property, without due process of law."); see Jamgochian v. N.J. State Parole Bd., 196 N.J. 222, 239 (2008) ("[W]e have, from time to time, construed Article 1, Paragraph 1 [of the New Jersey Constitution] to provide more due process protections than those afforded under the United States Constitution."); see also State v. Reid, 194 N.J. 386, 396-97 (2008) (recognizing greater protection of individual rights under New Jersey Constitution).

relevant system and estimator variables to be explored and weighed at pretrial hearings when there is some actual evidence of suggestiveness; and second, courts should develop and use enhanced jury charges to help jurors evaluate eyewitness identification evidence.

The new framework also needs to be flexible enough to serve twin aims: to guarantee fair trials to defendants, who must have the tools necessary to defend themselves, and to protect the State's interest in presenting critical evidence at trial. With that in mind, we first outline the revised approach for evaluating identification evidence and then explain its details and the reasoning behind it.

First, to obtain a pretrial hearing, a defendant has the initial burden of showing some evidence of suggestiveness that could lead to a mistaken identification. See State v. Rodriquez, supra, 264 N.J. Super. at 269; State v. Ortiz, supra, 203 N.J. Super. at 522; cf. State v. Michaels, 136 N.J. 299, 320 (1994) (using same standard to trigger pretrial hearing to determine if child-victim's statements resulted from suggestive or coercive interview techniques). That evidence, in general, must be tied to a system -- and not an estimator -- variable. But see Chen, supra (extending right to hearing for suggestive conduct by private actors).

Second, the State must then offer proof to show that the proffered eyewitness identification is reliable -- accounting for system and estimator variables -- subject to the following: the court can end the hearing at any time if it finds from the testimony that defendant's threshold allegation of suggestiveness is groundless. We discuss this further below. See infra at ___ (slip op. at 114-15).

Third, the ultimate burden remains on the defendant to prove a very substantial likelihood of irreparable misidentification. See Manson, supra, 432 U.S. at 116, 97 S. Ct. at 2254, 53 L. Ed. 2d at 155 (citing Simmons, supra, 390 U.S. at 384, 88 S. Ct. at 971, 19 L. Ed. 2d at 1253); Madison, supra, 109 N.J. at 239 (same). To do so, a defendant can cross-examine eyewitnesses and police officials and present witnesses and other relevant evidence linked to system and estimator variables.[11]

Fourth, if after weighing the evidence presented a court finds from the totality of the circumstances that defendant has demonstrated a very substantial likelihood of irreparable misidentification, the court should suppress the identification evidence. If the evidence is admitted, the court should provide

[11] A defendant, of course, may make a tactical choice not to explore an estimator variable pretrial, in order to "save up" cross-examination for trial.

appropriate, tailored jury instructions, as discussed further below.

To evaluate whether there is evidence of suggestiveness to trigger a hearing, courts should consider the following non-exhaustive list of system variables:

1. Blind Administration. Was the lineup procedure performed double-blind? If double-blind testing was impractical, did the police use a technique like the "envelope method" described above, to ensure that the administrator had no knowledge of where the suspect appeared in the photo array or lineup?

2. Pre-identification Instructions. Did the administrator provide neutral, pre-identification instructions warning that the suspect may not be present in the lineup and that the witness should not feel compelled to make an identification?

3. Lineup Construction. Did the array or lineup contain only one suspect embedded among at least five innocent fillers? Did the suspect stand out from other members of the lineup?

4. Feedback. Did the witness receive any information or feedback, about the suspect or the crime, before, during, or after the identification procedure?

5. Recording Confidence. Did the administrator record the witness' statement of confidence immediately after the

identification, before the possibility of any confirmatory feedback?

6. Multiple Viewings. Did the witness view the suspect more than once as part of multiple identification procedures? Did police use the same fillers more than once?

7. Showups. Did the police perform a showup more than two hours after an event? Did the police warn the witness that the suspect may not be the perpetrator and that the witness should not feel compelled to make an identification?

8. Private Actors. Did law enforcement elicit from the eyewitness whether he or she had spoken with anyone about the identification and, if so, what was discussed?

9. Other Identifications Made. Did the eyewitness initially make no choice or choose a different suspect or filler?

The court should conduct a Wade hearing only if defendant offers some evidence of suggestiveness. If, however, at any time during the hearing the trial court concludes from the testimony that defendant's initial claim of suggestiveness is baseless, and if no other evidence of suggestiveness has been demonstrated by the evidence, the court may exercise its discretion to end the hearing. Under those circumstances, the court need not permit the defendant or require the State to

elicit more evidence about estimator variables; that evidence would be reserved for the jury.

By way of example, assume that a defendant claims an administrator confirmed an eyewitness' identification by telling the witness she did a "good job." That proffer would warrant a Wade hearing. Assume further that the administrator credibly denied any feedback, and the eyewitness did the same. If the trial court finds that the initial allegation is completely hollow, the judge can end the hearing absent any other evidence of suggestiveness. In other words, if no evidence of suggestiveness is left in the case, there is no need to explore estimator variables at the pretrial hearing. Also, trial courts always have the authority to direct the mode and order of proofs, and they may exercise that discretion to focus pretrial hearings as needed.

If some actual proof of suggestiveness remains, courts should consider the above system variables as well as the following non-exhaustive list of estimator variables to evaluate the overall reliability of an identification and determine its admissibility:

1. Stress. Did the event involve a high level of stress?

2. Weapon focus. Was a visible weapon used during a crime of short duration?

3. Duration. How much time did the witness have to observe the event?

4. Distance and Lighting. How close were the witness and perpetrator? What were the lighting conditions at the time?

5. Witness Characteristics. Was the witness under the influence of alcohol or drugs? Was age a relevant factor under the circumstances of the case?

6. Characteristics of Perpetrator. Was the culprit wearing a disguise? Did the suspect have different facial features at the time of the identification?

7. Memory decay. How much time elapsed between the crime and the identification?

8. Race-bias. Does the case involve a cross-racial identification?

Some of the above estimator variables overlap with the five reliability factors outlined in Neil v. Biggers, supra, 409 U.S. at 199-200, 93 S. Ct. at 382, 34 L. Ed. 2d at 411, which we nonetheless repeat:

9. Opportunity to view the criminal at the time of the crime.

10. Degree of attention.

11. Accuracy of prior description of the criminal.

12. Level of certainty demonstrated at the confrontation. Did the witness express high confidence at the time of the

identification before receiving any feedback or other information?

13. The time between the crime and the confrontation. (Encompassed fully by "memory decay" above.)

The above factors are not exclusive. Nor are they intended to be frozen in time. We recognize that scientific research relating to the reliability of eyewitness evidence is dynamic; the field is very different today than it was in 1977, and it will likely be quite different thirty years from now. By providing the above lists, we do not intend to hamstring police departments or limit them from improving practices. Likewise, we do not limit trial courts from reviewing evolving, substantial, and generally accepted scientific research. But to the extent the police undertake new practices, or courts either consider variables differently or entertain new ones, they must rely on reliable scientific evidence that is generally accepted by experts in the community. See Chun, supra, 194 N.J. at 91; Moore, supra, 188 N.J. at 206; Rubanick, supra, 125 N.J. at 432.

We adopt this approach over the initial recommendation of defendant and the ACDL that any violation of the Attorney General Guidelines should require per se exclusion of the resulting eyewitness identification. Although that approach might yield greater deterrence, it could also lead to the loss of a substantial amount of reliable evidence. We believe that

the more flexible framework outlined above protects defendants' right to a fair trial at the same time it enables the State to meet its responsibility to ensure public safety.

D. Pretrial Hearing

As stated above, to obtain a pretrial hearing, a defendant must present some evidence of suggestiveness. Pretrial discovery, which this opinion has enhanced in certain areas, would reveal, for example, if a line-up did not include enough fillers, if those fillers did not resemble the suspect, or if a private actor spoke with the witness about the identification. Armed with that and similar information, defendants could request and receive a hearing.

The hearing would encompass system and estimator variables upon a showing of some suggestiveness that defendant can support. For various reasons, estimator variables would no longer be ignored in the court's analysis until it found that an identification procedure was impermissibly suggestive. First, broader hearings will provide more meaningful deterrence. To the extent officers wish to avoid a pretrial hearing, they must avoid acting in a suggestive manner. Second, more extensive hearings will address reliability with greater care and better reflect how memory works. Suggestiveness can certainly taint an identification, which justifies examining system variables. The same is true for estimator variables like high stress, weapon-

focus, and own-race bias. Because both sets of factors can alter memory and affect eyewitness identifications, both should be explored pretrial in appropriate cases to reflect what Manson acknowledged: that "reliability is the linchpin in determining the admissibility of identification testimony." Manson, supra, 432 U.S. at 114, 97 S. Ct. at 2253, 53 L. Ed. 2d at 154.

But concerns about estimator variables alone cannot trigger a pretrial hearing; only system variables would. This approach differs from the procedure endorsed by the Special Master and proposed by defendant and amici, which would essentially require pretrial hearings in every case involving eyewitness identification evidence. Several reasons favor the approach we outline today.

First, we anticipate that eyewitness identification evidence will likely not be ruled inadmissible at pretrial hearings solely on account of estimator variables. For example, it is difficult to imagine that a trial judge would preclude a witness from testifying because the lighting was "too dark," the witness was "too distracted" by the presence of a weapon, or he or she was under "too much" stress while making an observation. How dark is too dark as a matter of law? How much is too much? What guideposts would a trial judge use in making those judgment calls? In all likelihood, the witness would be allowed to testify before a jury and face cross-examination designed to

probe the weaknesses of her identification. Jurors would also have the benefit of enhanced instructions to evaluate that testimony -- even when there is no evidence of suggestiveness in the case. As a result, a pretrial hearing triggered by, and focused on, estimator variables would likely not screen out identification evidence and would largely be duplicated at trial.

Second, courts cannot affect estimator variables; by definition, they relate to matters outside the control of law enforcement. More probing pretrial hearings about suggestive police procedures, though, can deter inappropriate police practices.

Third, as demonstrated above, suggestive behavior can distort various other factors that are weighed in assessing reliability. That warrants a greater pretrial focus on system variables.

Fourth, we are mindful of the practical impact of today's ruling. Because defendants will now be free to explore a broader range of estimator variables at pretrial hearings to assess the reliability of an identification, those hearings will become more intricate. They will routinely involve testimony from both the police and eyewitnesses, and that testimony will likely expand as more substantive areas are explored. Also,

trial courts will retain discretion to allow expert testimony at pretrial hearings.

In 2009, trial courts in New Jersey conducted roughly 200 Wade hearings, according to the Administrative Office of the Courts. If estimator variables alone could trigger a hearing, that number might increase to nearly all cases in which eyewitness identification evidence plays a part. We have to measure that outcome in light of the following reality that the Special Master observed: judges rarely suppress eyewitness evidence at pretrial hearings. Therefore, to allow hearings in the majority of identification cases might overwhelm the system with little resulting benefit.

We do not suggest that it is acceptable to sacrifice a defendant's right to a fair trial for the sake of saving court resources, but when the likely outcome of a hearing is a more focused set of jury charges about estimator variables, not suppression, we question the need for hearings initiated only by estimator variables.

Appellate review does remain as a backstop to correct errors that may not be caught at or before trial, and the enhanced framework may provide a greater role in that regard in certain cases. If a reviewing court determines that identification evidence should not have been admitted in

accordance with the above standards, it can reverse a conviction.

We also note that trial courts should make factual findings at pretrial hearings about relevant system and estimator variables to lay the groundwork for proper jury charges and to facilitate meaningful appellate review.

Finally, we do not adopt the analogy between trace evidence and eyewitness identifications. To be sure, like traces of DNA or drops of blood, memories are part of our being. By necessity, though, the criminal justice system collects and evaluates trace evidence and eyewitness identification evidence differently. Unlike vials of blood, memories cannot be stored in evidence lockers. Instead, we must strive to avoid reinforcement and distortion of eyewitness memories from outside effects, and expose those influences when they are present. But we continue to rely on people as the conduits of their own memories, on attorneys to cross-examine them, and on juries to assess the evidence presented. For that reason, we favor enhanced jury charges to help jurors perform that task.

E. Trial

As is true today, juries will continue to hear about all relevant system and estimator variables at trial, through direct and cross-examination and arguments by counsel. In addition, when identification is at issue in a case, trial courts will

continue to "provide[] appropriate guidelines to focus the jury's attention on how to analyze and consider the trustworthiness of eyewitness identification." Cromedy, supra, 158 N.J. at 128. Based on the record developed on remand, we direct that enhanced instructions be given to guide juries about the various factors that may affect the reliability of an identification in a particular case.

Those instructions are to be included in the court's comprehensive jury charge at the close of evidence. In addition, instructions may be given during trial if warranted. For example, if evidence of heightened stress emerges during important testimony, a party may ask the court to instruct the jury midtrial about that variable and its effect on memory. Trial courts retain discretion to decide when to offer instructions.

As discussed earlier, the State maintains that many jurors, through their life experiences and intuition, generally understand how memory works. See supra at section VI.C. To the extent some jurors do not, the State argues that cross-examination, defense summations, the current jury charge, fellow jurors, and other safeguards can help correct misconceptions.

But we do not rely on jurors to divine rules themselves or glean them from cross-examination or summation. Even with matters that may be considered intuitive, courts provide focused

jury instructions. For example, we remind jurors to scrutinize the testimony of a cooperating witness with care. See Model Jury Charge (Criminal), "Testimony of Cooperating Co-Defendant or Witness" (2006). A simple reason underlies that approach: it is the court's obligation to help jurors evaluate evidence critically and objectively to ensure a fair trial.

Moreover, science reveals that memory and eyewitness identification evidence present certain complicated issues. See supra at section VI; see also Cromedy, supra, 158 N.J. at 120-23. In the past, we have responded by developing jury instructions consistent with accepted scientific findings. See Cromedy, supra, 158 N.J. at 132-33 (requiring cross-racial identification charge). We acted similarly in response to social science evidence about Battered Women's Syndrome and Child Sexual Abuse Accommodation Syndrome. See State v. Townsend, 186 N.J. 473, 500 (2006); State v. P.H., 178 N.J. 378, 399-400 (2004). Ultimately, as the Special Master found, "[w]hether the science confirms commonsense views or dispels preconceived but not necessarily valid intuitions, it can properly and usefully be considered by both judges and jurors in making their assessments of eyewitness reliability." (citing P.H., supra, 178 N.J. at 395).

Expert testimony may also be introduced at trial, but only if otherwise appropriate. The Rules of Evidence permit expert

testimony to "assist the trier of fact to understand the evidence or to determine a fact in issue." N.J.R.E. 702. Expert testimony is admissible if it meets three criteria:

> (1) the intended testimony must concern a subject matter that is beyond the ken of the average juror; (2) the field testified to must be at a state of the art such that an expert's testimony could be sufficiently reliable; and (3) the witness must have sufficient expertise to offer the intended testimony.
>
> [State v. Jenewicz, 193 N.J. 440, 454 (2008) (citations omitted).]

Those criteria can be met in some cases by qualified experts seeking to testify about the import and effect of certain variables discussed in section VI. That said, experts may not opine on the credibility of a particular eyewitness. See State v. Frisby, 174 N.J. 583, 595 (2002); see also State v. W.B., 205 N.J. 588, 613 (2011) (precluding "expert testimony about the statistical credibility of victim-witnesses").

Other federal and state courts have also recognized the usefulness of expert testimony relating to eyewitness identification. See, e.g., Bartlett, supra, 567 F.3d at 906; Brownlee, supra, 454 F.3d at 141-44; Chapple, supra, 660 P.2d at 1220; McDonald, supra, 690 P.2d at 721; Benn, supra, 978 A.2d at 1270; LeGrand, supra, 867 N.E.2d at 377-79; Copeland, supra, 226 S.W.3d at 300; Clopten, supra, 223 P.3d at 1108.

We anticipate, however, that with enhanced jury instructions, there will be less need for expert testimony. Jury charges offer a number of advantages: they are focused and concise, authoritative (in that juries hear them from the trial judge, not a witness called by one side), and cost-free; they avoid possible confusion to jurors created by dueling experts; and they eliminate the risk of an expert invading the jury's role or opining on an eyewitness' credibility. See United States v. Hall, 165 F.3d 1095, 1119-20 (7th Cir.) (Easterbrook, J., concurring), cert. denied, 527 U.S. 1029, 119 S. Ct. 2381, 144 L. Ed. 2d 784 (1999). That said, there will be times when expert testimony will benefit the trier of fact. We leave to the trial court the decision whether to allow expert testimony in an individual case.

Finally, in rare cases, judges may use their discretion to redact parts of identification testimony, consistent with Rule 403. For example, if an eyewitness' confidence was not properly recorded soon after an identification procedure, and evidence revealed that the witness received confirmatory feedback from the police or a co-witness, the court can bar potentially distorted and unduly prejudicial statements about the witness' level of confidence from being introduced at trial.

X. Revised Jury Instructions

To help implement this decision, we ask the Criminal Practice Committee and the Committee on Model Criminal Jury Charges to draft proposed revisions to the current charge on eyewitness identification and submit them to this Court for review before they are implemented. Specifically, we ask them to consider all of the system and estimator variables in section VI for which we have found scientific support that is generally accepted by experts, and to modify the current model charge accordingly.

Although we do not adopt the sample charges offered by the Innocence Project, we ask the Committees to examine their format and recommendations with care. We also invite the Attorney General, Public Defender, and ACDL to submit proposed charges and comments to the Committees.

We add a substantive point about the current charge for cross-racial identification. In 1999, the Court in Cromedy directed that the charge be given "only when . . . identification is a critical issue in the case, and an eyewitness's cross-racial identification is not corroborated by other evidence giving it independent reliability." Cromedy, supra, 158 N.J. at 132. Since then, the additional research on own-race bias discussed in section VI.B.8, and the more complete record about eyewitness identification in general, justify

giving the charge whenever cross-racial identification is in issue at trial.

Because of the widespread use the revised jury instructions will have in upcoming criminal trials, we ask the Committees to present proposed charges to the Court within ninety days.

XI. Application

We return to the facts of this case. After Womble, the eyewitness, informed the lineup administrator that he could not make an identification from the final two photos, the investigating officers intervened. They told Womble to focus and calm down, and assured him that the police would protect him from retaliation. "Just do what you have to do," they instructed. From that exchange, Womble could reasonably infer that there was an identification to be made, and that he would be protected if he made it. The officers conveyed that basic message to him as they encouraged him to make an identification.

The suggestive nature of the officers' comments entitled defendant to a pretrial hearing, and he received one. Applying the Manson/Madison test, the trial judge admitted the evidence. We now remand to the trial court[12] for an expanded hearing consistent with the principles outlined in this decision.

[12] The Appellate Division directed that the matter be assigned to a different judge on remand. See Henderson, supra, 397 N.J. Super. at 416. That issue is moot because the original trial judge has retired.

Defendant may probe all relevant system and estimator variables at the hearing. In addition to suggestiveness, the trial court should consider Womble's drug and alcohol use immediately before the confrontation, weapon focus, and lighting, among other relevant factors.

We express no view on the outcome of the hearing. If the trial court finds that the identification should not have been admitted, then the parties should present argument as to whether a new trial is needed. We do not review the record for harmless error only because the parties have not yet argued that issue. If Womble's identification was properly admitted, then defendant's conviction should be affirmed.

XII. Retroactivity Analysis

Today's decision announces a new rule of law. For decades, trial courts have applied the Manson/Madison test to determine the admissibility of identification evidence. This opinion "breaks new ground" by modifying that framework. See State v. Cummings, 184 N.J. 84, 97 (2005) (quoting State v. Knight, 145 N.J. 233, 250-51 (1996)). Because the holding "is sufficiently novel and unanticipated," we must consider whether the new rule should be applied retroactively. Knight, supra, 145 N.J. at 251 (citing State v. Lark, 117 N.J. 331, 339 (1989)).

When a decision sets forth a new rule, three factors are considered to determine whether to apply the rule retroactively:

"(1) the purpose of the rule and whether it would be furthered by a retroactive application, (2) the degree of reliance placed on the old rule by those who administered it, and (3) the effect a retroactive application would have on the administration of justice." Ibid. (quoting State v. Nash, 64 N.J. 464, 471 (1974)).

The factors are not of equal weight. The first factor -- the purpose of the rule -- "is often the pivotal consideration." Ibid. (quoting State v. Burstein, 85 N.J. 394, 406 (1981)). When, as here, "the new rule is designed to enhance the reliability of the factfinding process," courts consider "the likelihood of untrustworthy evidence being admitted under the old rule" and "whether the defendant had alternate ways of contesting the integrity of the evidence being introduced against him." Burstein, supra, 85 N.J. at 408.

The remaining two factors "come to the forefront" when the rule's purpose alone does not resolve the question of retroactivity. Knight, supra, 145 N.J. at 252. As to the second factor -- the degree of reliance on the prior rule -- the central consideration is "whether the old rule was administered in good faith reliance [on] then-prevailing constitutional norms." State v. Purnell, 161 N.J. 44, 55 (1999) (quotation marks and citations omitted; alteration in original). The third factor -- the effect on the administration of justice --

"recognizes that courts must not impose unjustified burdens on our criminal justice system." Knight, supra, 145 N.J. at 252. When the effect is unknown but undoubtedly substantial, that weighs in favor of limited retroactive application. See State v. Bellamy, 178 N.J. 127, 142-43 (2003); Purnell, supra, 161 N.J. at 56; State v. Czachor, 82 N.J. 392, 409-10 (1980).

The Court can apply a new rule in one of four ways: (1) "purely prospectively . . . to cases in which the operative facts arise after the new rule has been announced"; (2) "in future cases and in the case in which the rule is announced, but not in any other litigation that is pending or has reached final judgment at the time the new rule is set forth"; (3) "'pipeline retroactivity,' rendering it applicable in all future cases, the case in which the rule is announced, and any cases still on direct appeal"; and (4) "complete retroactive effect . . . to all cases." Knight, supra, 145 N.J. at 249 (internal citations omitted).

Applying the relevant factors, we first note that defendants have been able to challenge identification evidence under Manson and Madison and present arguments both before and at trial. Second, both the State and trial courts have, without question, relied in good faith on settled constitutional principles in applying the Manson/Madison test for many years. Last, there is no doubt that applying the new framework

retroactively would affect an immense number of cases -- far too many to tally -- because eyewitness identifications are a staple of criminal trials. To reopen the vast group of cases decided over several decades, which relied not only on settled law but also on eyewitness memories that have long since faded, would "wreak havoc on the administration of justice." State v. Dock, 205 N.J. 237, 258 (2011).

We therefore apply today's ruling to future cases only, except for defendant Henderson (and defendant Cecilia Chen, the subject of a companion case filed today). As to future cases, today's ruling will take effect thirty days from the date this Court approves new model jury charges on eyewitness identification.

XIII. Conclusion

At the core of our system of criminal justice is the "twofold aim . . . that guilt shall not escape or innocence suffer." Berger v. United States, 295 U.S. 78, 88, 55 S. Ct. 629, 633, 79 L. Ed. 1314, 1321 (1935). In the context of eyewitness identification evidence, that means that courts must carefully consider identification evidence before it is admitted to weed out unreliable identifications, and that juries must receive thorough instructions tailored to the facts of the case to be able to evaluate the identification evidence they hear.

To be effective, both tasks cannot rely on a dated, analytical framework that has lost some of its vitality. Rather, they must be informed by sound evidence on memory and eyewitness identification, which is generally accepted by the relevant scientific community. Only then can courts fulfill their obligation both to defendants and the public.

The modified framework to evaluate eyewitness identification evidence in this opinion attempts to meet that challenge. It relies on the developments of the last thirty years of science to promote fair trials and ensure the integrity of the judicial process.

The framework avoids bright-line rules that would lead to suppression of reliable evidence any time a law enforcement officer makes a mistake. Instead, it allows for a more complete exploration of system and estimator variables to preclude sufficiently unreliable identifications from being presented and to aid juries in weighing identification evidence.

We add that enhanced hearings are not meant to be the norm in every case. They will only be held when defendants allege some evidence of suggestiveness, and even then, courts retain the power to end a hearing if the testimony reveals that defendant’s claim of suggestiveness is entirely baseless.

We also expect that in the vast majority of cases, identification evidence will likely be presented to the jury.

The threshold for suppression remains high. Juries will therefore continue to determine the reliability of eyewitness identification evidence in most instances, with the benefit of cross-examination and appropriate jury instructions.

As a result, we believe that it is essential to educate jurors about factors that can lead to misidentifications, which in and of itself will promote deterrence. To that end, we have reviewed various system and estimator variables in detail, which should assist in the development of enhanced model jury charges. Using those charges in future criminal trials is a critical step in the overall scheme.

We thank Judge Gaulkin, the parties, and amici for their exemplary service in conducting and participating in a thorough, useful remand hearing. They have provided a valuable service to the Court and the public.

XIV. Judgment

For the reasons set forth above, we modify and affirm the judgment of the Appellate Division, and modify the framework for assessing eyewitness identification evidence in criminal cases. We remand to the trial court for further proceedings consistent with this opinion.

JUSTICES LONG, LaVECCHIA, ALBIN, RIVERA-SOTO and HOENS join in CHIEF JUSTICE RABNER's opinion.

Appendix A: Remand Order

SUPREME COURT OF NEW JERSEY
A-8 September Term 2008

STATE OF NEW JERSEY,

Plaintiff-Respondent,

v. O R D E R

LARRY R. HENDERSON,

Defendant-Appellant.

This matter having come to the Court on a grant of certification, 195 N.J. 521 (2008), to address whether evidence of eyewitness identification used against defendant was impermissibly suggestive and thus inadmissible under the two-part test applied in Manson v. Brathwaite, 432 U.S. 98, 97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977), and followed as a state law standard in State v. Madison, 109 N.J. 223, 232-33 (1988);

And that test requiring inquiry into, first, whether the identification procedure was impermissibly suggestive, and second, whether the procedure was so suggestive as to result in a very substantial likelihood of irreparable misidentification, Madison, supra, 109 N.J. at 232;

And the second inquiry requiring consideration of five factors: (1) the opportunity of the witness to view the suspect at the time of the crime; (2) the witness's degree of attention;

(3) the accuracy of the witness's prior description of the suspect; (4) the level of certainty demonstrated at the confrontation; and (5) the time between the crime and the confrontation, id. at 239-40;

And the Court having granted leave to appear as amicus curiae to the Association of Criminal Defense Lawyers of New Jersey and The Innocence Project;

And the parties and amici having submitted arguments about the reliability of identification evidence and the current framework for evaluating the admissibility of such evidence;

And the Court having noted previously that, based on recent empirical research, "[m]isidentification is widely recognized as the single greatest cause of wrongful convictions in this country," State v. Delgado, 188 N.J. 48, 60-61 & n.6 (2006);

And the Court having further recognized that in 2001 the New Jersey Attorney General established Guidelines for Preparing and Conducting Photo and Live Lineup Identification Procedures to reduce suggestive eyewitness identifications in this state, State v. Herrera, 187 N.J. 493, 502 n.2, 511-20 (2006);

And the parties and amici having raised and argued questions about the possible shortcomings of the Manson/Madison test in light of more recent scientific research;

And this Court having determined on prior occasions that when resolution of a critical issue depends on a full and

complete record the Court should await, before decision, the development of such a record, State v. Moore, 180 N.J. 459, 460-61 (2004); Am. Trucking Ass'ns v. State, 164 N.J. 183, 183-84 (2000); see also Herrera, supra, 187 N.J. at 504;

And the Court having heard argument of the parties and having concluded that an inadequate factual record exists on which it can test the current validity of our state law standards on the admissibility of eyewitness identification;

And the Court having concluded that, until such a record is established, the Court should not address the question of the admissibility of the eyewitness identification presented in this case;

And for good cause appearing;

It is ORDERED that the matter is remanded summarily to the trial court for a plenary hearing to consider and decide whether the assumptions and other factors reflected in the two-part Manson/Madison test, as well as the five factors outlined in those cases to determine reliability, remain valid and appropriate in light of recent scientific and other evidence; and it is further

ORDERED that, subject to any rulings by the trial court regarding the proofs to be submitted on remand, defendant and the State each shall present before that court testimony and

other proof, including expert testimony, in support of their respective positions; and it is further

ORDERED that the Attorney General of New Jersey and the Office of the Public Defender, as well as amici, The Association of Criminal Defense Lawyers of New Jersey and The Innocence Project, shall each participate in developing the aforesaid record; and it is further

ORDERED that on the entry of the trial court's opinion on remand, the parties and amici shall each have twenty-one days within which to file briefs and appendices in this Court and five days thereafter to file any responding briefs; and it is further

ORDERED that on the completion of the briefing, the Court will determine whether additional oral arguments are required; and it is further

ORDERED that jurisdiction is otherwise retained.

WITNESS, the Honorable Stuart Rabner, Chief Justice, at Trenton, this 26th day of February, 2009.

CLERK OF THE SUPREME COURT

CHIEF JUSTICE RABNER and JUSTICES LONG, LaVECCHIA, ALBIN, WALLACE, RIVERA-SOTO, and HOENS join in the Court's Order.

SUPREME COURT OF NEW JERSEY

NO. A-8 SEPTEMBER TERM 2008

ON CERTIFICATION TO Appellate Division, Superior Court

STATE OF NEW JERSEY,

Plaintiff-Appellant,

v.

LARRY R. HENDERSON,

Defendant-Respondent.

DECIDED August 24, 2011

Chief Justice Rabner PRESIDING

OPINION BY Chief Justice Rabner

CONCURRING/DISSENTING OPINIONS BY

DISSENTING OPINION BY

CHECKLIST	MODIFIED AND AFFIRMED/ REMANDED	
CHIEF JUSTICE RABNER	X	
JUSTICE LONG	X	
JUSTICE LaVECCHIA	X	
JUSTICE ALBIN	X	
JUSTICE RIVERA-SOTO	X	
JUSTICE HOENS	X	
TOTALS	6	