DOCKET NO.: CR08 0375803	:	SUPERIOR COURT
STATE OF CONNECTICUT	:	J. D. OF WATERBURY
V.	:	AT WATERBURY
TAMARIUS MANER	:	JULY 19, 2011

MEMORANDUM OF DECISION RE STATE'S MOTION TO PRECLUDE DEFENDANT'S EXPERT ON EYEWITNESS IDENTIFICATION

In this murder prosecution, the state of Connecticut seeks an order preventing the defendant from introducing before the jury the testimony of an expert witness on the subject of the reliability of eyewitness identifications. Following a hearing conducted pursuant to *State* v. *Porter*, 241 Conn. 57, 59, 698 A.2d 739 (1997), cert. denied, 523 U.S. 1058, 118 S. Ct 1384, 140 L. Ed. 2d 45 (1998), I deny the state's motion in part and grant the motion in part.[1]

I. Background

The defendant, Tamarius Maner, is charged with murder, in violation of General Statutes § 53a-54a; felony murder, in violation of General Statutes § 53a-54c; home invasion, in violation of General Statutes § 53a-100aa (a) (1); burglary in the first degree, in violation of General Statutes § 53a-101 (a) (3); and criminal attempt at assault in the first degree in violation of General Statutes § 53a-49 (a) (2) and § 53a-59 (a) (5). The charges arise out of a home invasion

[1] This decision was first announced orally in open court prior to the commencement of evidence. At that time, the court indicated that a full written decision would be issued in due course. This is that written decision.

In the interim, the jury returned verdicts of guilty with respect to felony murder, home invasion, burglary in the first degree, and criminal attempt at assault in the first degree. The jury did not reach a unanimous decision on the murder charge. After the court accepted the guilty verdicts, the state nolled the murder charge and the court then dismissed that charge without objection by the state. The court sentenced the defendant to a total effective sentence of seventy years to serve.

that resulted in the death of the victim, James Caffrey. The state asserts that these criminal acts were perpetrated by the defendant and a co-defendant, Calvin Bennett. Prior to the commencement of trial in this case, Bennett was separately tried by a three judge panel and found guilty of felony murder, home invasion and burglary in the first degree.

The state's case against the defendant relies heavily on the testimony of two eyewitnesses who were present during the home invasion of the victim's apartment: Samantha Bright, the victim's girlfriend, and Emilia Caffrey, the victim's mother. Both Bright and Caffrey are white. The defendant is black. Set forth below is a description of events they witnessed on the night of the murder and the administration of photographic arrays used to identify the defendant.

On October 27, 2008, shortly after 1:00 am, the doorbell for the back door of the victim's apartment rang and the victim went to answer it. From the bedroom, several rooms away, Bright heard a loud bang that she thought was a gunshot. Shortly thereafter, two unmasked black men came into the bedroom, each with a handgun. They pointed their guns at Bright and asked her where "the stuff" was. After searching a bureau, the men found a bag of marijuana and an undetermined amount of money. While in the bedroom, Bright heard Emilia Caffrey scream from the kitchen, "Call 911!" When the men heard the scream, they left the bedroom. Then, Bright heard another gunshot and stayed in her bedroom for a few seconds because she was scared. When Bright left the bedroom and entered the kitchen she saw the victim lying on his stomach with a lot of blood around his head.

Emilia Caffrey was sleeping in her bedroom in a downstairs apartment when a loud bang woke her. She got out of bed, went up the back staircase to the victim's apartment and opened the screen door from the porch that leads to a small hallway. There, she saw her son lying face down. She saw a large pool of blood underneath his face and yelled to Bright to call 911. She

then went to the door that leads to the kitchen and upon entering saw two dark-skinned males coming from the left side of the kitchen. One of the men pointed a gun at her. She then heard a gun shot and fell to the floor.

Two days later, the Waterbury Police Department identified two possible suspects in the case. At that time, the police asked Bright and Caffrey to come to the detective bureau to view photographic arrays. The police had Bright and Caffrey view the arrays in separate rooms. Before Bright and Caffrey viewed each array, the police told them to read a "witness instructions for photo identification" sheet that stated, among other things, that the perpetrators may or may not be in the photographs. They both signed the sheets indicating that they understood the instructions. They would later record their identifications on these sheets.

The police showed Bright a group of eight photos of similar looking men and asked her if she recognized anyone. After looking at the photos, Bright stated that she recognized the man in photo number six. Bright said that number six was the same black man who wore a khaki sweatshirt and pointed a gun at her in her bedroom. Additionally, she said that he was the same man that came to her apartment on the afternoon of the day before the shooting to purchase marijuana from the victim. She circled, signed and dated photo number six. The police told Bright that the man in photo number six was Tamarius Maner.

The police then showed Bright another group of eight photos. She did not recognize anyone in the second group despite the fact that one of the photographs was of Calvin Bennett.

The police showed Emilia Caffrey a photographic array with eight photos of similar looking black men and asked her if she recognized anyone. She immediately recognized the man in photo number seven as the man who wore a tan sweatshirt and shot the gun at her in the

apartment. Caffrey then circled, signed and dated photo number seven. The police told her that the man in photo number seven was Tamarius Maner.

The police then showed her a second array with eight photos. She recognized the man in photo number four as the other man who was in the apartment at the time of the shooting. Caffrey then circled, signed and dated photo number four. The police told her that the man in photo number four was Calvin Bennett.

On September 22, 2010, the defendant filed a disclosure of expert testimony, giving notice of his intention to call Steven Penrod, Ph.D., as an expert witness on the reliability of eyewitness identifications. In response, the state filed a motion in limine to preclude Penrod's testimony from trial.

II. Discussion

The state seeks an order from the court precluding Penrod from testifying on three grounds. First, the state argues that the court should not allow Penrod's opinions because they do not meet the standards of reliability and relevancy for expert testimony established by the Connecticut Supreme Court's decision in *State* v. *Porter*. Second, the state contends that Penrod's proposed testimony invades the province of the jury to determine the weight or effect it wishes to give the eyewitness testimony. Third, the state argues that the presentation of the testimony will be unduly confusing and time consuming without providing any meaningful guidance to the jury.

The defendant has neither filed a motion to suppress the out-of-court eyewitness identifications nor argues that the identifications violated his due process rights in that they were the result of an unnecessarily suggestive identification procedure and not reliable based on an examination of the totality of the circumstances under *Manson* v. *Brathwaite*, 432 U.S. 98, 114,

97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977). The defendant's argument is simply that Penrod should be permitted to testify in front of the jury regarding the factors that affect the reliability of eyewitness identifications, and particularly how certain factors relate to the present case.

To address these issues, the court conducted a hearing on December 16, 2010, at which time Penrod testified regarding: (1) whether the factors affecting the reliability of eyewitness testimony are within the knowledge of the average juror and (2) whether the methodology of the scientific research studying these factors is reliable.

A. The Problem of Wrongful Convictions Based on Eyewitness Testimony

The issues before the court highlight a problem that has vexed the criminal justice system for decades. As Justice Palmer explained in his concurring opinion in *State* v. *Outing*: "[C]ourts long have recognized the inherent danger in eyewitness testimony. Indeed, more than forty years ago, the United States Supreme Court observed that '[t]he vagaries of eyewitness identification are well-known; the annals of criminal law are rife with instances of mistaken identification. [United States Supreme Court] Justice [Felix] Frankfurter once said: 'What is the worth of identification testimony even when uncontradicted? The identification of strangers is proverbially untrustworthy. The hazards of such testimony are established by a formidable number of instances in the records of English and American trials. These instances are recent – not due to the brutalities of ancient criminal procedure.' *United States* v. *Wade*, 388 U.S. 218, 228, 87 S. Ct. 1926, 18 L. Ed. 2d 1149 (1967); see also *State* v. *Ledbetter*, 275 Conn. 534, 577, 881 A.2d 290 (2005) ('courts are not blind to the inherent risks of relying on eyewitness identification'), cert. denied, 547 U.S. 1082, 126 S. Ct. 1798, 164 L. Ed. 2d 537 (2006); *State* v. *Tatum*, 219 Conn. 721, 733, 595 A.2d 322 (1991) ('[t]he dangers of misidentification are well known and have been widely recognized throughout the United States')." *State* v. *Outing*, 298

Conn. 34, 100, 3 A.3d 1 (2010), cert. denied, __ U.S. __, 131 S. Ct. 1479, 179 L. Ed. 2d 316 (2011) (*Palmer, J.*, concurring).

Justice Palmer then noted: "It is not surprising, therefore, that '[i]n recent years, extensive studies have supported a conclusion that eyewitness misidentification is the single greatest source of wrongful convictions in the United States.' *State* v. *Wright*, 147 Idaho 150, 157, 206 P.3d 856 (App. 2009). Despite this longstanding recognition of the inherent unreliability of eyewitness identifications, courts frequently have rebuffed defense efforts to introduce expert testimony on the subject." *State* v. *Outing*, supra, 298 Conn. 101 (*Palmer, J.*, concurring).

Justice Palmer went on to outline the scientific research in the field of eyewitness identifications: " 'Over the last decade, there have been extensive studies on the issue of identification evidence, research that is now impossible . . . to ignore.' *State* v. *Dubose*, 285 Wis. 2d 143, 162, 699 N.W.2d 582 (2005). These studies, which 'detail the extensive amount of behavioral science research in this area'; *State* v. *Copeland*, 226 S.W.3d 287, 299 (Tenn. 2007); are found in 'literally hundreds of articles in scholarly, legal, and scientific journals on the subject of eyewitness testimony.' Id. In fact, according to a recent law review article, there have been more than 2000 studies concerning eyewitness identification; R. Schmechel et al., 'Beyond the Ken? Testing Jurors' Understanding of Eyewitness Reliability Evidence,' 46 Jurimetrics 177, 180 (2006); see also *State* v. *Dubose*, supra, 162, ('there have been extensive studies on the issue of identification evidence'); a number that one court has characterized as 'far exceeding the research on most mental health evidence . . . ." *State* v. *Wright*, supra, 147 Idaho 157; see also *United States* v. *Smith*, 621 F. Sup. 2d 1207, 1212-13 (M.D. Ala. 2009) ('[n]umerous studies have been done under controlled conditions assessing the factors that influence eyewitnesses in accordance with generally accepted practice in the behavioral science community done

independent[ly] of any litigation' [internal quotation marks omitted]) [aff'd, 370 Fed. Appx. 29 (11th Cir. 2010)]." *State* v. *Outing*, supra, 298 Conn. 101-02 (*Palmer, J.*, concurring).

Justice Palmer then stressed the need for expert testimony on memory and eyewitness identification: "[Recent evidence has confirmed] what long has been suspected, that is, that there exists a direct correlation between eyewitness testimony and wrongful convictions. 'In addition to the experimental literature, cases of proven wrongful convictions of innocent people have consistently shown that mistaken eyewitness identification is responsible for more of these wrongful convictions than all other causes combined . . . .' (Citations omitted.) [G. Wells et al., 'Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads,' 22 Law & Hum. Behav. 603, 605 (1998)]. In fact, studies of DNA exonerations have demonstrated that mistaken eyewitness identifications were involved in between 64 and 86 percent of all wrongful convictions. See, e.g., J. McMurtrie, 'The Role of the Social Sciences in Preventing Wrongful Convictions,' 42 Am. Crim. L. Rev. 1271, 1275 n.17 (2005) (citing to studies revealing that erroneous identifications have accounted for up to 86 percent of convictions of persons ultimately exonerated by DNA testing); S. Gross et al., 'Exonerations in the United States: 1989 Through 2003,' 95 J. Crim. L. & Criminology 523, 542 (2005) (citing study demonstrating that 64 percent of wrongful convictions involved at least one erroneous eyewitness identification). These findings, and the other extensive research that has occurred over the last thirty years, have 'shown that expert testimony on memory and eyewitness identification is the only legal safeguard that is effective in sensitizing jurors to eyewitness errors.' J. McMurtrie, supra, 1276; see also R. Wise, K. Dauphinais & M. Safer, ['A Tripartite Solution to Eyewitness Error,' 97 J. Crim. L. & Criminology 807, 819 (2007)] ('expert eyewitness testimony . . . is the only traditional legal safeguard that has shown any efficacy in

mitigating eyewitness error'); cf. B. Garrett, 'Judging Innocence,' 108 Colum. L. Rev. 55, 81 (2008) ('most exonerees had no successful basis for challenging what we now know to be incorrect eyewitness identifications')." *State* v. *Outing*, supra, 298 Conn. 117-19 (*Palmer, J.*, concurring).

B. Case Law Background

(1) Connecticut Case Law

As a treatise on Connecticut evidence notes: "Connecticut courts have not been particularly receptive to expert testimony on the reliability of eyewitness identifications. In *State* v. *Kemp*, 199 Conn. 473, 477, 507 A.2d 1387 (1986), the Connecticut Supreme Court upheld a trial court's decision to exclude expert testimony on the potential for inaccuracy of eyewitness identifications. The *Kemp* case was more recently reaffirmed in *State* v. *McClendon*, 248 Conn. 572, 589, 730 A.2d 1107 (1999).

"The court in *McClendon* and *Kemp* concluded that expert testimony on the reliability of eyewitness identification [may be excluded] because the general principles that affect the reliability of eyewitness identification, such as the fact that (1) memories fade over time, (2) people under severe stress do not acquire information as well as those not under stress and (3) people unconsciously resolve apparent inconsistencies between their memories and after-acquired facts, are already within the general understanding of jurors. *McClendon*, however, did not completely close the door on the admission of expert testimony on the reliability of eyewitness identification because, in analyzing the defendant's proffer in that case, it relied heavily on the fact that the defendant's expert witness could not phrase his testimony in terms of 'reasonable scientific certainties.' Id., 587. Moreover, the expert witness's testimony was not reviewed by the trial court under the *Porter* standard for the admission of scientific testimony.

"The court's rationale in *McClendon* has since been significantly undercut by its recent decisions in *State* v. *Ledbetter*, [supra, 275 Conn. 534], and *State* v. *Marquez*, [291 Conn. 122, 967 A.2d 56, cert. denied, 130 S.Ct. 237, 175 L.Ed.2d 163 (2009)]. In *Ledbetter*, the court mandated that trial courts instruct the jury that there is an increased risk of misidentification with respect to out-of-court identification procedures in which the individual conducting the procedure either indicated to the witness that the suspect was present in the procedure or failed to warn the witness that the suspect may or may not be in the procedure. The court's conclusion that such an instruction is necessary was reached only after an exhaustive appellate review of scientific studies involving the inherent risks of eyewitness identifications. If it was necessary for the court to review these scientific studies in order to conclude that such a jury instruction must be given, then it seems obvious to the authors that these risks are not necessarily within the general understanding of jurors and therefore are the proper subject of expert testimony.

"The court in *State* v. *Marquez*, [supra, 291 Conn. 122], returned to the scientific literature in the context of analyzing whether it should exercise its supervisory authority to mandate the adoption and use of new and purportedly more accurate identification procedures. Additionally, the trial court in *Marquez*, following the specific command of the Supreme Court in *Ledbetter*, itself analyzed relevant scientific literature to determine whether the identification at issue was unnecessarily suggestive. Again, the courts' use of the scientific studies strongly suggests the risks of misidentification are not generally understood by jurors and that expert testimony in explaining those risks may be appropriate.

"Recently, . . . the Supreme Court avoided . . . addressing the admissibility of such expert testimony. See *State* v. *Outing*, [supra, 298 Conn. 34]. In *Outing*, the Supreme Court expressed its willingness to reexamine *Kemp* and *McClendon*, but concluded that the case did not properly

raise the issue." C. Tait & E. Prescott, Tait's Handbook of Connecticut Evidence (4th Ed. 2008) § 6.27.7 (2011 Supplement) p. 60-62.

(2) Case Law of Other States

Throughout the country, the trend over the last twenty years has been away form a per se rule that expert testimony on the reliability of an eyewitness identification is inadmissible. The modern and majority approach is to allow expert testimony at the discretion of the trial court if the court determines that it would help the jury to assess the reliability of an eyewitness's identification. See *United States* v. *Rodriguez-Felix*, 450 F.3d 1117, 1124-25 (10th Cir.), cert. denied, 549 U.S. 968, 127 S.Ct. 420, 166 L.Ed.2d 297 (2006) and cases cited therein; *Johnson* v. *State*, 272 Ga. 254, 256-57, 526 S.E.2d 549 (2000) (rejecting earlier per se inadmissible rule); *State* v. *Wright*, 147 Idaho 150, 158, 206 P.3d 856 (2009) (adopting a standard under which it would be an abuse of a trial court's discretion to exclude expert testimony on factors affecting the reliability of eyewitness identifications not likely to be known or understood by the jury if eyewitness identification of the defendant is a key element of the prosecution's case but is not substantially corroborated by evidence giving it independent reliability); *State* v. *Schutz*, 579 N.W. 2.d 317, 320 (Iowa 1998) (reversing per se rule of *State* v. *Galloway*, 275 N.W.2d 736 (Iowa 1979)); *Commonwealth* v. *Christie*, 98 S.W.3d 485, 488 (Ky. 2002) (holding that trial courts have discretion under Kentucky Rule of Evidence 702 to admit expert witness testimony regarding the reliability of eyewitness identification, overruling earlier cases to the extent they were contrary); *Bomas* v. *State*, 412 Md. 392, 416-17, 987 A.2d 92 (2010) (reaffirming *Bloodsworth* v. *State*, 307 Md. 164, 184, 185, 512 A.2d 1056 (1986), which held that trial courts have discretion to allow expert witness testimony on reliability of eyewitness testimony if the testimony would be of "real appreciable help to the trier of fact in deciding the issue presented");

People v. *Lee*, 96 N.Y.2d 157, 162-63, 750 N.E.2d 63, 726 N.Y.S.2d 361 (2001) (rejecting a per se inadmissible rule); *State* v. *Copeland*, 226 S.W.3d 287, 300 (Tenn. 2007) (overruling per se rule); *State* v. *Clopten*, 2009 UT 84, ¶ 30, 223 P.3d 1103, 1112 (2009) (holding that testimony of a qualified expert regarding factors that have been shown to contribute to inaccurate eyewitness identifications should be admitted whenever it meets requirements of rule 702 of the Utah Rules of Evidence). Our Supreme Court acknowledged this "sea change" in *State* v. *Outing*, supra, 298 Conn. 60.

C. Whether Testimony Regarding the Reliability of Eyewitness Identifications is a Permissible Object of Expert Testimony.

Importantly, both *Kemp* and *McClendon* held that it was within the discretion of the trial court to exclude from trial expert testimony regarding the reliability of eyewitness identifications. *State* v. *Kemp*, supra, 199 Conn. 476-79; *State* v. *McClendon*, supra, 248 Conn. 590. Neither case, however, prohibits a trial court to allow such testimony if it finds that such knowledge is not within the common understanding of the jury. Additionally, since our Supreme Court decided *Kemp* and *McClendon*, scientists have conducted more research regarding whether the average person understands the factors that affect the reliability of eyewitness identifications. Accordingly, I first consider the issue of whether the factors regarding the reliability of eyewitness identifications are within the common understanding of a juror and therefore are permissible objects of expert testimony.

As an initial matter, it is helpful to review the law that governs the admissibility of expert testimony. Section 7-2 of the Connecticut Code of Evidence provides: "A witness qualified as an expert by knowledge, skill, experience, training, education or otherwise may testify in the form of an opinion or otherwise concerning scientific, technical or other specialized knowledge, if the

testimony will assist the trier of fact in understanding the evidence or in determining a fact in issue." "[T]he trial court has wide discretion in ruling on the admissibility of expert testimony . . . . Expert testimony should be admitted when: (1) the witness has a special skill or knowledge directly applicable to a matter in issue, (2) that skill or knowledge is not common to the average person, and (3) the testimony would be helpful to the court or jury in considering the issues." (Internal quotation marks omitted.) *Prentice* v. *Dalco Electric, Inc*., 280 Conn. 336, 342, 907 A.2d 1204 (2006), cert. denied, 549 U.S. 1266, 127 S. Ct. 1494, 167 L. Ed. 2d 230 (2007).

First, I find that Penrod is an expert on the issue of the reliability of eyewitness identifications. The state concedes that Penrod is an expert in this field. Penrod holds a juris doctor and a Ph.D. in psychology. As a professor at John Jay College, he teaches courses at the Ph.D. level on juries and on eyewitness identifications. Penrod is a member of several professional associations, including the American Psychological Society and the Association of Psychological Science. In addition, Penrod personally conducts research projects regarding eyewitness identifications. He has authored or coauthored thirty to forty publications regarding original research on eyewitness identification issues. Half of those appeared in peer reviewed journals, while the other half appeared as chapters in books or treatises. Accordingly, he is qualified in the field.

Next, I must determine whether Penrod's skill or knowledge is not common to the average person and whether the testimony would be helpful to the jury in considering the issues. The defendant seeks to offer to the jury Penrod's opinion regarding ten factors that may affect reliability of eyewitnesses and are relevant to the present case. These opinions may be summarized as follows: (1) stress impairs identification accuracy; (2) the presence of a weapon attracts witnesses' attention away from the characteristics of the person who is wielding the

weapon and onto the weapon itself (weapon focus); (3) identification accuracy is impaired when people attempt to identify people of another race or ethnic group (cross-race identification); (4) the length of time the witness has to view the perpetrator affects identification accuracy (exposure duration);[2] (5) an eyewitness's prior exposure to a face of an innocent person increases the risk that the eyewitness will misidentify that person as the perpetrator of the crime (unconscious transference); (6) the certainty of witnesses, measured by how confident the witnesses say they are after making an identification, is only modestly correlated to the accuracy of identifications (witness certainty); (7) the feedback that witnesses receive after they make an identification can alter how confident the witnesses are of their identification (confidence malleability); (8) sequential photographic identification procedures, in which photos are shown to a witness one after another, produce fewer misidentifications than simultaneous photographic arrays; (9) non-blind presentation of a photographic array, in which the administrator knows who the suspect is, can increase identification errors; and (10) a witness's memory rapidly deteriorates after viewing a perpetrator.

The state argues that several of these opinions are already within the common understanding of the jury. For instance, the state argues that it is common sense that memory tends to deteriorate over time. On the other hand, the state concedes Penrod's opinion regarding blind and non-blind administrations of photographic arrays, and the difference between simultaneous and sequential presentation of photographic arrays, are not within the knowledge of the average juror.

Having heard Penrod testify, I conclude that the Connecticut Supreme Court's assumption about the common understanding of jurors with respect to these issues is incorrect

[2] At the end of the hearing, the defendant withdrew his proffer of Penrod's opinion regarding exposure duration. As a result, the court need not address the testimony regarding exposure duration in this memorandum of decision.

and that jurors do not understand how these factors do or do not affect the reliability of eyewitness identifications. Jurors also do not commonly understand the degree to which these factors impact the reliability of eyewitness identifications.

Specifically, I find that the fact that cross-race identifications are less accurate than same race identifications is not within the knowledge of the average juror. Indeed, many of the potential jurors in this case, when asked during voir dire if they believed that cross-racial identifications were less accurate, responded, "No." It is true that there is some research that suggests that some groups of respondents understand that identification accuracy is impaired when people identify people of another race or ethnic group. Even so, Penrod's research regarding juror decision-making establishes that such respondents often disregard that understanding when assessing the accuracy of identifications. Therefore, expert testimony is appropriate not only to educate those jurors who profess to have no knowledge about effects of cross-race identifications, but also to ensure that jurors take that knowledge and use it to asses the accuracy of the identification presented in a particular case.

Second, I find that the effects of stress on the accuracy of eyewitness identifications are not within the knowledge of the average juror. Witnessing violence may cause the eyewitness stress. One study asked the test subjects whether the fact that a crime is violent tends to make an eyewitness' memory about the details of the crime more reliable, less reliable, or would have no effect. Only 30 percent of test subjects correctly understood that witnessing violence tends to make an eyewitness' memory for details less reliable.

Third, I find that the effects of an eyewitness' focus on the perpetrator's weapon (weapon focus) on identification accuracy are not within the knowledge of the average juror. The research shows that 37 percent of respondents thought the presence of a weapon would make a witness'

memory for event details more reliable, while 33 percent thought it would have no effect. Only 30 percent understood the presence of a weapon tends to make an eyewitness' memory for details less reliable.

Fourth, I find that the theory of unconscious transference, in other words, that a witness's prior exposure to a face of an innocent person increases the risk that the eyewitness will misidentify that person as the perpetrator of the crime, is not within the knowledge of the average juror. Although there are no studies that adequately address whether unconscious transference is within the knowledge of the average juror, I conclude that jurors are unaware that unconscious transference can affect the identification process. Unconscious transference is not one of the theories that our Supreme Court identified in either *Kemp* or *McClendon* as being within the knowledge of jurors. Additionally, before becoming involved in this case, despite having some familiarity with eyewitness identification issues, I was unaware of the unconscious transference theory. Finally, Penrod's research regarding juror decision-making establishes that jurors generally do not use their understanding of factors that affect eyewitness identifications when assessing the accuracy of eyewitness identifications.

Fifth, I find that the relationship between witness certainty and identification accuracy is not within the knowledge of the average juror. Research shows that there is only a modest correlation between how certain eyewitnesses say they are of their identifications and the accuracy of the identification. Research also shows that test respondents rely very heavily on witnesses' expression of how certain they are of the accuracy of their identifications. Therefore, the research concludes that jurors rely too heavily on a witness' expression of certainty. Their reliance is not justified by the modest correlation between certainty and accuracy. In Penrod's studies, when expert testimony was introduced about the actual relationship between certainty

and accuracy, test respondents tended to rely on the witnesses' expressions of certainty less then they would have absent the expert testimony.

Sixth, I find that "confidence malleability," is not within the knowledge of the average juror. Confidence malleability is the phenomenon that occurs when photographic array administrators give feedback to eyewitnesses after identifying a suspect. Research establishes this feedback can alter the eyewitnesses' confidence regarding the accuracy of their identifications. For instance, if witnesses receive confirming feedback indicating that they made a correct identification, e.g., being told that another witness made the same identification, they report that they are confident that they have made an accurate identification. On the other hand, if the array administrator provides feedback that does not confirm the identification, like telling the eyewitnesses that another eyewitness identified a different person as the perpetrator, the eyewitnesses report that they are not very confident or did not have a good view of the perpetrator. When researchers showed videotapes of these identifications to test subjects, the test subjects believed the witnesses who say they are confident and do not believe those who say they are not very confident or did not have a good view of the perpetrator. This research shows that people are sensitive to confidence, but are not sensitive to the circumstances that give rise to the varying degrees of confidence.

Seventh, I find that the rapid deterioration of memory and its effect on eyewitness identification accuracy is not within the knowledge of the average juror. Jurors in general do understand that with the passage of time it is harder to retrieve previously remembered information. What the average person does not understand is that the loss of memory is most dramatic during the first minutes and hours following exposure to an event.

To summarize, based on Penrod's testimony and the underlying research studies, I find that the average juror does not understand that the accuracy of eyewitness identification are impacted by various factors including: (1) cross-race identifications; (2) stress; (3) weapon focus; (4) unconscious transference; (5) witness certainty; (6) confidence malleability; (7) the rapid deterioration of memory; (8) the difference between blind and non-blind administrations of photographic arrays; and (9) the difference between simultaneous and sequential presentation of photographic arrays. Based on Penrod's testimony, I find that testimony on these factors will be helpful to the jury in understanding the issues brought before the court. The testimony will be helpful to those jurors who have no understanding of the factors and will ensure that jurors take any knowledge they may currently have regarding the factors and actually apply them to asses the accuracy of the identifications presented in this case.

Even though Penrod's proffered opinions are not within the knowledge of the average juror, the state argues that they improperly invade the province of the jury to determine the weight or effect it wishes to give the eyewitness testimony. I disagree, and concur with the reasoning set forth in Justice Palmer's opinion in *State* v. *Outing*. "[T]here is no reason to prohibit an expert from testifying on the problems of eyewitness identifications on the ground that such testimony infringes on the responsibility of the jury to evaluate witness credibility, that it will confuse the jurors or that jurors are likely to place too much emphasis on the expert's opinion. Any such expert would not be permitted to opine about the credibility or accuracy of the eyewitness testimony itself; that determination is solely within the province of the jury. Rather, the expert testimony presumably would cover those factors that have been found to have an adverse effect on the reliability of eyewitness identifications generally and that are relevant to the particular eyewitness identification at issue. Although the expert testimony is designed to assist

the jury in ascertaining the extent to which the jury should credit the eyewitness testimony, there is no material difference between it and expert testimony on battered woman syndrome; see, e.g., *State* v. *Borrelli*, 227 Conn. 153, 174, 629 A.2d 1105 (1993) ('[The] expert testimony was properly admitted to assist the jury in understanding, not whether [the victim] was a credible witness on the witness stand, but whether her conduct . . . was consistent with the pattern and profile of a battered woman. . . . [Such] expert testimony [does] not invade the province of the jury in determining the credibility of witnesses.' [Citation omitted; internal quotation marks omitted.]); or on the manner in which victims of child sexual abuse often react to that abuse. See, e.g., *State* v. *Iban C.*, 275 Conn. 624, 635, 881 A.2d 1005 (2005) ('[I]n cases that involve allegations of sexual abuse of children . . . expert testimony of reactions and behaviors common to victims of sexual abuse is admissible. . . . Such evidence assists a jury in its determination of the victim's credibility by explaining the typical consequences of the trauma of sexual abuse on a child. . . . It is not permissible, however, for an expert to testify as to his opinion of whether a victim in a particular case is credible or whether a particular victim's claims are truthful.' [Citations omitted; internal quotation marks omitted.]). Finally, '[a]s is true of all expert testimony, the jury remains free to reject it entirely after considering the expert's opinion, reasons, qualifications, and credibility.' *People* v. *McDonald*, [37 Cal. 3d 351, 371, 690 P.2d 709, 208 Cal. Rptr. 236 (1984)]. There simply is no reason to think, therefore, that the jury will treat such testimony differently from any other expert testimony that meets the standard for admissibility under our rules of evidence." *State* v. *Outing*, supra, 298 Conn. 113-15 (*Palmer*, *J.*, concurring).

The State also argues that the presentation of Penrod's testimony will be unduly confusing and time consuming without providing any meaningful guidance to the jury. I

disagree[3] and again concur with Justice Palmer's reasoning in *State* v. *Outing*. "It is true, of course, that permitting expert testimony on the reliability of eyewitness identifications in any given case may result in a somewhat longer trial. This fact alone, however, is not a basis for excluding such testimony, which generally will be highly relevant, and perhaps crucial, to the defense. See, e.g., *United States* v. *Brownlee*, [454 F.3d 131, 144 (3d Cir. 2006)] ('[i]t would seem anomalous to hold that the probative value of expert opinion offered to show the unreliability of eyewitness testimony so wastes time or confuses the issue that it cannot be considered even when the putative effect is to vitiate the [primary] evidence offered by the government' [internal quotation marks omitted]); *State* v. *Chapple*, [135 Ariz. 281, 295, 660 P.2d 1208 (1983)] ('the problem of time is not present in [a] case [involving expert testimony on the reliability of eyewitness identifications] . . . since time spent on the crucial issue of the case cannot be considered as "undue" loss of time'); *People* v. *McDonald*, supra, 37 Cal. 3d 372 ('[e]vidence that is relevant to the prime theory of the defense cannot be excluded in wholesale fashion merely because the trial would be simpler without it'). Moreover, the trial court 'retains discretion to place reasonable limitations on the expert's testimony to avoid overwhelming the jury or unduly burdening the court, [as] long as these limitations are consistent with the requirements of the defense.' *Benn* v. *United States*, [978 A.2d 1257, 1262 (D.C. 2009)]; see also id., 1275 (any reasonable 'concern [that] a trial judge may have that admission of expert testimony [on the reliability of eyewitness identifications] could confuse or overwhelm the jury is more appropriately dealt with, not by exclusion, but by placing reasonable limitations on the expert's testimony and instructing the jurors that they—and only they—are the ultimate fact finders'). In fact, a contrary conclusion might well infringe on the defendant's constitutional

[3] At trial, Penrod's testimony consumed less than two hours before the jury.

right to present a defense, depending on the facts of the case. See, e.g., *Washington* v. *Schriver*, 255 F.3d 45, 56-57 (2d Cir. 2001) (constitutional right to present meaningful defense may be implicated by improper exclusion of expert testimony)." *State* v. *Outing*, supra, 298 Conn. 115-16 (*Palmer, J.*, concurring).

D. Whether a *Porter* Analysis is Necessary

If Penrod's opinions are deemed to be "scientific evidence" then they must undergo a validity assessment to ensure reliability pursuant to *State* v. *Porter*, supra, 241 Conn. 66-68. "In *Porter*, [our Supreme Court] followed the United States Supreme Court's decision in *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), and held that scientific evidence should be subjected to a flexible test, with differing factors that are applied on a case-by-case basis, to determine the reliability of the scientific evidence. . . . Following *State* v. *Porter*, supra, 81-84, scientific evidence, and expert testimony based thereon, usually is to be evaluated under a threshold admissibility standard assessing the reliability of the methodology underlying the evidence and whether the evidence at issue is, in fact, derived from and based upon that methodology." (Internal quotation marks omitted.) *Prentice* v. *Dalco Electric, Inc.*, supra, 280 Conn. 343.

"Although [our Supreme Court] in *Porter* explicitly adopted the *Daubert* test to determine the admissibility of scientific evidence; see *State* v. *Porter*, supra, 241 Conn. 68; [the court] did not explicitly overrule Connecticut precedent regarding the evidence to which such a test should apply. Prior to *Porter*, [the court] had recognized that the *Frye* [v. *United States*, 293 F. 1013 (D.C. Cir. 1923)] test for admissibility should not apply to all expert testimony, but only to that which involves 'innovative scientific techniques . . . .' *State* v. *Borrelli*, [supra, 227 Conn. 163; *State* v. *Hasan*, 205 Conn. 485, 489, 534 A.2d 877 (1987). In *Porter*, [the court] recognized

that *Daubert's* vagueness as to how and when to apply the factors of the test was necessary. *State* v. *Porter*, supra, 78. In order to maintain flexibility in applying the test, [the court] did not define what constitutes 'scientific evidence.' Id., at 78-79." (Internal quotation marks omitted.) *State* v. *Kirsch*, 263 Conn. 390, 403, 820 A.2d 236 (2003).

"The validity assessments of *Frye*, and now *Porter*, [find their] rational basis in the degree to which the trier of fact must accept, on faith, scientific hypotheses [not] capable of proof or disproof in court and not even generally accepted outside the courtroom. . . . [The validity assessment] contemplates those situations in which the evidence sought to be admitted is beyond the understanding of the ordinary juror who must sacrifice his independent judgment in deference to the expert. . . . Among the dangers created by such scientific evidence is its potential to mislead lay jurors awed by an aura of mystic infallibility surrounding scientific techniques, experts and the fancy devices employed. . . . The fact that a technique or method [meets the *Porter* standard] tends to ensure that the jury will not accord undue weight to theories whose validity [have] not been adequately tested." (Internal quotation marks omitted.) *Hayes* v. *Decker*, 263 Conn. 677, 687-88, 822 A.2d 228 (2003).

In *State* v. *Griffin*, 273 Conn. 266, 282, 869 A.2d 640 (2005), the Supreme Court affirmed a trial court's decision to subject an expert's testimony regarding the "Grisso test" to a *Porter* analysis. The Grisso test purportedly assessed a juvenile's competency to understand *Miranda* warnings. Id., 271. In reaching its conclusion, the court explained that "evidence, even evidence with its roots in scientific principles, which is within the comprehension of the average juror and which allows the jury to make its own conclusions based on its independent powers of observation and physical comparison, and without heavy reliance upon the testimony of an expert witness, need not be considered 'scientific' in nature for the purposes of evidentiary

admissibility." (Internal quotation marks omitted.) Id., 278. In contrast, the expert testimony concerning the Grisso test "was predicated on the results of a scientific instrument or tool and not solely on [the expert's] observations, educational background or experience. [T]he . . . testimony [at issue] was based on a method employed by the expert witness to assess comprehension. Neither powers of observation, comparison nor common sense, however, could be used [by the trier of fact] to assess the validity of the method underlying the Grisso test and in determining whether it accurately measures what it purports to measure. Instead, the methodology underlying the test rested on . . . scientific principles, theory or experiment in the field of psychology." (Internal quotation marks omitted.) Id., 280.

I find that similar to the expert testimony offered in *Griffin*, the methodology underlying the research upon which Penrod basis his testimony is based on novel scientific principles, theory or experiment in the field of psychology. Neither powers of observation, comparison nor common sense can be used by the jury to assess the validity of the methods underlying the research regarding the reliability of eyewitness identifications. Researchers conduct studies according to the scientific method. After researchers conduct numerous studies regarding a hypothesis, other researchers study the results of those studies through a meta-analysis.[4]

[4] "[M]eta-analysis entails the application of statistical procedures to collections of empirical findings for the purpose of integrating, synthesizing, and making sense of them . . . . Meta-analysis attempts to integrate the findings of multiple independent tests of a similar hypothesis in a more objective manner by treating the empirical study as the unit of analysis. Researchers may then draw inferences based on the effect size (or predictive capacity) of relationships between variables." (Citation omitted; internal quotation marks omitted.). T. Pratt, "Meta-Analysis in Criminal Justice and Criminology: What It is, When It's Useful, and What to Watch Out for," 21 J. Crim. Just. Edu. 152, 154 (2010). "[I]n a meta-analysis, it is possible to examine whether an array of methodological factors may condition the effect size of the relationships between the independent to the dependent variables. Thus, separate effect sizes can be calculated when a study is longitudinal, when known predictors of the dependent variable are or are not controlled, when a certain measure of a variable is used, or when a certain unit of analysis is used, and so on. In each case, it is thus possible to examine statistically how an effect size will increase or decrease across such methodological variations." Id., 155.

For example, the "weapon focus" hypothesis is that the presence of a weapon attracts witnesses' attention away from the characteristics of the person who is wielding the weapon and onto the weapon itself and, as a result, impairs the accuracy of the eyewitness identification. Researchers have tested this hypothesis to determine whether the object must be a weapon or any unusual object. These researchers have conducted studies pursuant to the scientific method using individuals who hold syringes containing yellow fluid, rubber chickens and stalks of celery and found that their presence impaired the accuracy of eyewitnesses who are later asked to identify the person holding the unusual object. Researchers then subjected these studies to meta-analysis. The average lay juror does not routinely develop, perform, or evaluate scientific experiments involving independent variables, dependent variables, and control groups. Additionally, the average lay juror is not trained to find statistical significance over numerous studies. Therefore the average juror is incapable of assessing the reliability of the methodology regarding these innovative scientific techniques.

Even if an expert's testimony is based on innovative scientific techniques, a *Porter* "validity assessment" is not required in four situations. The first occurs when "established techniques [are] applied to the solution of novel problems." (Internal quotation marks omitted.) *Hayes* v. *Decker*, supra, 263 Conn. 688. For example, in *Hayes*, the court held that a *Porter* analysis was unnecessary when the underlying premises of expert testimony were generally accepted principles of cardiology supported by numerous studies. Id., 689. *Porter* "simply does not apply" to such "well established principles of the scientific community." Id.

The second situation is when the "scientific principles have become so well established that an explicit *Daubert* analysis is not necessary for admission of evidence thereunder." *State* v. *Porter*, supra, 241 Conn. 85 n.30. Such scientific principles "are so firmly established as to have

attained the status of scientific law . . . [and] properly are subject to judicial notice." (Internal quotation marks omitted.) Id.

The third situation is when the "evidence simply requires jurors to employ their own powers of observation and comparison." *State* v. *West*, 274 Conn. 605, 634, 877 A.2d 787, cert. denied, 546 U.S. 1049, 126 S. CT. 775, 163 L. Ed. 2d 601 (2005). For example, in *State* v. *Reid* 254 Conn. 540, 547-48, 757 A.2d 482 (2000), the Supreme Court held that a *Porter* analysis was unnecessary for expert testimony regarding microscopic hair analysis. The court explained: "The jurors were free to make their own determinations as to the weight they would accord the expert's testimony in the light of the photograph and their own powers of observation and comparison. The jurors were not subject to confusing or obscure scientific evidence, but were able to use the testimony to guide them in their own determination of the similarity of the two hairs." Id. 547-48.

The fourth situation is when the testimony is not truly scientific. *State* v. *Vumback*, 68 Conn. App. 313, 332, 791 A.2d 569 (2002), aff'd on other grounds, 263 Conn. 215, 819 A.2d 250 (2003). In *Vumback*, an expert for the state testified "to explain that victims of sexual abuse often lack precision in their allegations and to show the common factors regarding a victim's delay in reporting sexual abuse." Id., 328. The court held a *Porter* analysis was unnecessary because the expert's testimony was not scientific. Id., 332. The court explained that the expert "did not apply any scientific instrument or test to specific evidence in the case and he did not apply any scientific test to a hypothetical question posed by the state." (Internal quotation marks omitted.) Id., 331. The expert "merely explained, on the basis of his experience and education, how children subjected to sexual abuse might act under certain circumstances." Id.

I find that none of the four exceptions apply to the scientific techniques that form the basis of Penrod's testimony. Regarding the first two exceptions, the science underlying Penrod's opinions is not so well established that at *Porter* hearing would essentially be a waste of judicial resources. Courts that allow testimony such as Penrod's typically subject it to a reliability test. See e.g., *Commonwealth* v. *Christie*, supra, 98 S.W.3d 492 (remanding case to trial court to determine relevancy and reliability of expert eyewitness-identification testimony); *Bomas* v. *State*, 412 Md. 392, 417-18 (rejecting presumption of admissibility regarding expert eyewitness-identification testimony in favor of established evidentiary rule requiring trial courts to assess reliability of expert testimony and relevancy to facts of case.) Regarding the third exception, Penrod's testimony does not concern a topic about which the jurors can use their own powers of observation to reach a conclusion. For example, the jury cannot observe that witness certainty is only modestly correlated to identification accuracy. The fourth exception does not apply because Penrod's testimony is truly scientific in nature. Unlike the testimony in *Vumback*, which was anecdotal and based on the expert's experience and education, Penrod's testimony is based on numerous scientific studies rooted in the scientific method.[5]

E. *Porter* Analysis

Having concluded that a *Porter* analysis is required, I next turn to the two-part inquiry required by *Porter*. The first inquiry questions the reliability of the underlying science. The second inquiry questions the relevance of the proffered testimony to the facts of the case.

[5] Even if Penrod's testimony is not subject to a *Porter* analysis, the court has a gatekeeper role that requires it to scrutinize proffered expert testimony of questionable reliability. See *Kumho Tire Co*. v. *Carmichael*, 526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999); C.C.E. Commentary §7-2.

(1) Reliability

The first inquiry, reliability, focuses on the underlying reasoning and methodology of the scientific evidence that forms the basis of the expert's testimony. According to *Porter*, "the focus of a validity assessment 'must be solely on principles and methodology, not on the conclusions that they generate.' *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, supra, 509 U.S. 595. So long as the methodology underlying a scientific opinion has the requisite validity, the testimony derived from that methodology meets the *Daubert* threshold for admissibility, even if the judge disagrees with the ultimate opinion arising from that methodology, *and even if there are other methodologies that might lead to contrary conclusions*. Thus, a judge should admit scientific testimony when there are good grounds for [the] expert's conclusion, even if the judge thinks that there are better grounds for some alternative conclusion." (Internal quotation marks omitted.) *State* v. *Porter*, supra, 241 Conn. 81-82. Additionally, "even where a particular technique has been shown to satisfy *Daubert*, the proponent must also establish that the specific scientific testimony at issue is, in fact, *derived from* and based upon that methodology." (Emphasis in original.) *State* v. *Porter*, supra, 83.

"[T]he court in *Porter* identified four nonexclusive factors for judges to consider in determining whether a particular theory or technique is based on scientific knowledge: (1) whether it can be, and has been, tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known or potential rate of error, including the existence and maintenance of standards controlling the technique's operation; and (4) whether the technique is, in fact, generally accepted in the relevant scientific community." (internal quotation marks omitted.) *State* v. *Griffin*, supra, 273 Conn. 283.

According to *Porter*, general acceptance is an important factor and appears to be the start of the analysis. "Although 'general acceptance' is no longer an absolute prerequisite to the admission of scientific evidence, it should, in fact, be an important factor in a trial judge's assessment. . . . Thus, [a]lthough *Frye* may no longer be *the* standard for admissibility, general acceptance remains a part of the analysis, and in many cases its presence may alone be sufficient to admit the evidence. . . . That is, if a trial court determines that a scientific methodology *has* gained general acceptance, then the *Daubert* inquiry will generally end and the conclusions derived from that methodology will generally be admissible. If a principle has *not* gained general acceptance, however, [the court emphasizes] that a proponent of [the] scientific opinion . . . may [still] demonstrate the reliability or validity of the underlying scientific theory or process by some other means, that is, without establishing general acceptance." (Citations omitted; emphasis in original; internal quotation marks omitted.) *State* v. *Porter*, supra, 241 Conn. 84-85.

The court in *Porter* further noted that "[s]everal other factors may properly play a role in a court's assessment of the validity of a scientific methodology. . . . [Those factors include] the prestige and background of the expert witness supporting the evidence . . . [t]he extent to which the scientific technique in question relies on subjective interpretations and judgments by the testifying expert, rather than on objectively verifiable criteria . . . whether a testifying expert can present and explain the data and methodology underlying his or her scientific testimony in such a manner that the fact finder can reasonably and realistically draw its own conclusions therefrom . . . [and] whether the scientific technique underlying the proffered expert testimony was developed and implemented solely to develop evidence for in-court use, or whether the technique has been developed or used for extrajudicial purposes. . . . Recognizing the indefiniteness inherent in applying this multifactor approach, [the court] observed that [t]he actual operation of

each factor, as is the determination of which factors should be considered at all, depends greatly on the specific context of each case." (Citation omitted; internal quotation marks omitted.) *State* v. *Griffin*, supra, 273 Conn. 283-84.

According to *Porter*: "[Q]uestions about the methodological validity of proffered scientific testimony will generally go to the *weight* of such evidence, not to its admissibility. Courts should exclude scientific evidence, however, when such concerns render the technique, and the resulting evidence, incapable of assisting the fact finder in a sufficiently meaningful way. Moreover, in light of the traditional policy regarding the admission of relevant evidence, [a] judge frequently should find an expert's methodology helpful [and thus admissible] even when the judge thinks that the expert's technique has flaws sufficient to render the [expert's] conclusions inaccurate. He or she will often still believe that hearing the expert's testimony and assessing its flaws was an important part of assessing what conclusion was correct and may certainly still believe that a jury attempting to reach an accurate result should consider the evidence." (Internal quotation marks omitted.) *State* v. *Porter*, supra, 241 Conn. 88-89.

Based on Penrod's testimony, which he gave within a reasonable degree of scientific certainty, the court finds that the methodology of the research regarding: (1) stress; (2) weapon focus; (3) cross-race identification; (4) unconscious transference; (5) witness certainty; (6) confidence malleability; (7) simultaneous versus sequential presentation of photographic arrays; (8) blind versus non-blind administration of photo arrays; and (9) the rapid deterioration of memory is reliable. Researchers have tested each of these theories in numerous experiments and studies designed according to the scientific method using methods generally accepted within the scientific community. The results have been published in peer-reviewed journals and books. Researchers have conducted meta-analyses of the results in order to draw conclusion about the

studies as a whole. I will specifically address the underlying studies and methodology of each theory.

First, I find that the methodology of the research that concludes that stress impairs the accuracy of eyewitness identifications is sufficiently reliable. The stress that researchers have studied can be characterized as fight or flight stress, in other words, the stress that people feel when they are put in situations they would want to avoid. This is distinguished from the stress a person's body feels after running on a treadmill. Violence can be a source of stress, but is difficult to study because researchers cannot make test subjects the victims of violence for research purposes. Instead, to study stress, researchers employ situations that evoke fear. A 2004 meta-analysis examined a series of studies where test subjects were subjected to stressful situations to determine the effect of stress on identification accuracy. The researchers conducting the meta-analysis found a significant drop in identification accuracy as a function of high stress in approximately eighteen of those studies. Identifications were accurate in about 59 percent of the low stress conditions and 39 percent in the high stress situations.

Other studies have produced similar results. One such study researched identification accuracy in military personnel undergoing training at a prisoner of war camp. They were interrogated under high stress conditions, characterized as involving physical confrontation, for forty minutes and low stress conditions for forty minutes. A day later they were tested on their ability to recognize their interrogators. Accuracy levels were as high as 75 percent among the low stress witnesses and were as low as 27 percent in the high stress witnesses.

Second, I find that the methodology of the research that concludes that an eyewitness's focus on the perpetrator's weapon impairs identification accuracy (weapon focus) is sufficiently reliable. Studies have shown that the object that the perpetrator holds does not actually have to

be a weapon to impair identification accuracy, but any unusual object that attracts attention. For instance, a study conducted in the 1980s used a hypodermic syringe filed with yellow liquid. The research participants saw either someone carrying the syringe or a person without the syringe. The researchers observed a 30 percent increase in identification errors when the person was carrying the syringe. They concluded that the research participants who viewed the person holding the syringe were focused on the syringe and not on the characteristics of the person holding it. Other studies have used other unusual objects such as a rubber chicken or a stalk of celery and have found similar results.

Third, I find that the methodology of the research that concludes that cross-race identifications are significantly less accurate than same race identifications is sufficiently reliable. In a 2001 meta-analysis, researchers analyzed over ninety comparisons of performance in same versus other race or ethnic group identification settings that used 5000 research participants. In these studies, researchers presented the participants with a "perpetrator." Then, the researchers presented the participants with different photographic arrays. The researchers told the participants to identify the perpetrator or indicate that the perpetrator was not present in the array. A "target absent array" was an array that did not include the perpetrator. A "target present array" was an array that did include the perpetrator. In a target absent array, an error occurred when a participant identified someone in the array as the perpetrator rather than indicating that the perpetrator was not in the array.

The meta-analysis concluded that the participants were approximately twice as likely to identify accurately a person of their own race as the perpetrator as they were to identify accurately a person of another race as the perpetrator. Put another way, the participants were half

as likely to identify accurately a person of another race as they are to identify accurately a person of their own race.

Fourth, I find that the methodology of the research that concludes that an eyewitness's prior exposure to a face of an innocent person increases the risk that the eyewitness will misidentify that person as the perpetrator of the crime (unconscious transference) is sufficiently reliable. In one study, the researcher staged an assault in front of a large group of people and then showed them a photographic array containing pictures of the perpetrator of the staged assault, a bystander and some fillers. The researcher asked them to pick the perpetrator of the assault. Forty percent of the participants picked the perpetrator, while 25 percent picked a bystander. A meta-analysis of similar studies concluded that the identification error rate increases when the eyewitness have prior exposure to innocent people in photographic arrays.

Similar studies found that eyewitnesses can mix-up the role that the perpetrators play in the crime (role confusion). I find that the methodology behind these studies is reliable as well. One study used a videotape of two people in a car driving down a street. At one point in the videotape, one person gets out of the car and robs a victim. The researcher showed the videotape to participants and asked them to identify the perpetrator, the one who got out of the car and robbed the victim. The study concluded that the person who stayed in the car was vulnerable to misidentification as the perpetrator. Two out of three times, the participants who recognized him said he was the person who got out of the car when, in fact, he was not.

Fifth, I find that the methodology of the research that concludes that the degree of certainty of a witness is only modestly correlated to the accuracy of identifications, is sufficiently reliable. The studies ask eyewitness participants how confident they are immediately after they make an identification so that they are not subject to feedback that could affect their confidence

level. The researchers found a 40 percent error rate among witnesses who claim to be 90 to 100 percent accurate. The general pattern is that there is somewhat greater accuracy among the most confident witnesses.

Sixth, I find that the methodology of the research that concludes that the feedback that witnesses receive after they make an identification can alter how confident the witnesses are of their identification (confidence malleability) is sufficiently reliable. Studies have found that if witnesses receive some sort of confirming feedback indicating that they made a correct identification, such as the person administering the photographic array nodding approvingly or telling the witness that another witness made the same identification, the witnesses tend to be more confident that they have made a correct identification.

Seventh, I find that the methodology of the research that concludes that sequential photographic identification procedures, in which photos are shown to a witness one after another, produce fewer misidentifications than simultaneous photographic arrays, in which the witness is shown the photos all at once, is sufficiently reliable. The theory is that in a simultaneous photographic array a witness can compare photos within the array to each other, decided which one look most like the perpetrator until all but one photo has been eliminated. The witness then may have a tendency to conclude that the last photo must be of the perpetrator. According to the research, the witness makes a decision by judging the faces in the array relative to one another. The theory behind sequential photographic procedures is that if witnesses are presented with one photo at a time, it is much more difficult to compare those photos, and they are compelled to compare each photo with their memory of the perpetrator's face.

Studies show that simultaneous arrays are much more likely to lead to a misidentification in circumstances where the perpetrator is absent from the array than when the perpetrator is present in the array. The difference in the error rate can be as much as 42 percent.

A meta-analysis compared the identification error rate between simultaneous arrays and sequential arrays in which the perpetrator was absent. In the simultaneous arrays there was a 51 percent error rate, while there was only a 27 percent error rate in sequential arrays.

Eighth, I find that the methodology of the research that concludes that non-blind presentation of a photographic array can increase identification errors, is sufficiently reliable. The concern is that the presence of an administrator who knows who the suspect is in an array can have intentional and unintentional effects on the witness. Penrod conducted studies in which he trained graduate students to administer arrays while subtly steering the participants to particular individuals in the array. In some studies, they steered participants toward the perpetrator. In other studies, in which the perpetrator was not present in the array, the administrators steered the participants toward innocent people in the array. The administrators would say things like, “oh I noticed that you paused on number two, is there something about him that caught your attention.” When influenced in such a manner, the participants were more likely to identify those individuals.

Ninth, I find that the methodology of the research that concludes that a witness’s memory rapidly deteriorates, is sufficiently reliable. According to a meta-analysis, memory loss is fairly rapid immediately after viewing an event. The biggest loss of memory occurs early on, within the first minutes and hours, and then loss becomes shallower over time.

The state argues that some of Penrod’s testimony is based on unreliable science or methodologies. The state argues that several of the experiments used young college students as

test subjects, who were in controlled and manipulated settings that were designed to achieve a desired result. The state points out that the researchers cannot subject their test subjects to violence. For example, weapon focus studies do not actually use weapons, but substitutes such as stalks of celery. The state argues that these experiments do not produce accurate results because they do not use witnesses to actual crimes. Additionally, the state argues that Penrod's testimony would be unduly prejudicial in that it would put such a gloss on the topic of the reliability of eyewitness identifications that after hearing it the jury may think that it cannot believe any witness about anything.

As previously explained, I find that the science that provides a basis to Penrod's opinion is reliable. The methodology used by Penrod and others in his field including, their experimental methods, controls and meta-analyses are well accepted within the scientific community as appropriate ways of studying the theories regarding the reliability of eyewitness identifications. The research studies have been published in peer-reviewed journals. The state concedes that Penrod is a prestigious expert in this field. He testified that his opinions of all the factors were reached within a reasonable degree of scientific certainty. The state has not presented any testimony or evidence to refute that the methods are not well accepted within the scientific community. Moreover, "questions about the methodological validity of proffered scientific testimony will generally go to the *weight* of such evidence, not to its admissibility." (Emphasis added.) *State* v. *Porter*, supra, 241 Conn. 88.

(2) Relevancy

The second *Porter* inquiry, relevancy, asks whether the scientific evidence fits the present case. "In other words, proposed scientific testimony must be demonstrably relevant to the facts of the particular case in which it is offered, and not simply be valid in the abstract." *State* v.

Porter, supra, 241 Conn. 65. "Once the party opposing the evidence objects, the proponent bears the burden of demonstrating its admissibility." (Internal quotation marks omitted.) Id., 87.

According to *Porter*: "In addressing the showing that a proponent of scientific evidence must make, [the court is] largely guided by the fundamental tenets of the law of evidence regarding admissibility. Evidence is admissible when it tends to establish a fact in issue or to corroborate other direct evidence in the case. . . . Evidence is not rendered inadmissible because it is not conclusive. All that is required is that evidence *tend* to support a relevant fact even to a slight degree, so long as it is not prejudicial or merely cumulative. . . . Moreover, even evidence susceptible to different interpretations is admissible . . . [s]o long as the evidence may reasonably be construed in such a manner that it would be relevant." (Citations omitted; emphasis in original; internal quotation marks omitted.) Id., 87-88.

The state's case against the defendant relies heavily on the testimony of two eyewitnesses who were present during the home invasion of the victim's apartment: Samantha Bright, the victim's girlfriend, and Emilia Caffrey, the victim's mother. I will not permit Penrod to opine about the credibility or accuracy of Bright and Caffrey's testimony in particular. Rather, I will allow Penrod to testify regarding the previously mentioned factors that researchers have found to have an adverse effect on the reliability of eyewitness identifications generally and that are relevant to Bright and Caffrey's identification of the defendant. I will individually assess the relevancy of each of the factors to the present case.

First, I find that Penrod's testimony regarding stress is relevant. During the violent home invasion, both witnesses were under high levels of stress when they witnessed the perpetrators.

Second, I find that Penrod's testimony regarding weapon focus is relevant. During the home invasion, both witnesses saw the perpetrators use and display a gun.

Third, I find that Penrod's testimony regarding cross-race identification is relevant. Both witnesses are white, and they both testified that the perpetrators were black. They both identified the defendant, who is black, as one of the perpetrators.

Fourth, I find that Penrod's testimony regarding unconscious transference is relevant. Prior to the home invasion, Bright had previously spent time with the defendant. Bright said that she saw the defendant buying drugs at the apartment the day before the home invasion. The related theory of role reversal is also relevant because there were two perpetrators.

Five, I find that Penrod's testimony regarding witness certainty is relevant. Both witnesses expressed how certain they were of their identifications.

Sixth, I find that Penrod's testimony regarding confidence malleability is not relevant. The defendant argues that it is relevant because the police asked the witnesses to record their identifications of the defendant as the perpetrator on the "witness instructions for photo identification" sheets they had signed before viewing the photographic arrays. I find that the police asking the witnesses to record their identifications on the "witness instructions for photo identification" sheets is not sufficiently similar to the type of conscious or unconscious influence that administrators of photographic arrays have exercised in the studies Penrod discussed. Consequently, I conclude that this case does not raise an issue of confidence malleability, at least in the ways supported by the underlying research. Therefore, I prohibit Penrod from testifying on confidence malleability.

Seventh, I find that Penrod's testimony regarding simultaneous versus sequential presentation of photographic arrays is relevant. The police presented both witnesses with simultaneous photographic arrays.

Eighth, I find that Penrod's testimony regarding blind versus non-blind administration of photographic arrays is relevant. The officers administering the photographic array knew that the defendant was a suspect.

Ninth, I find that Penrod's testimony regarding the rapid deterioration of memory in the first minutes and hours of witnessing an event is relevant. Both witnesses made their identifications two days after the home invasion.

III. Conclusion

In conclusion, I will allow Penrod's testimony on the following: 1) stress; 2) weapon focus; 3) cross-race identification; 4) unconscious transference; 5) witness certainty; 6) simultaneous versus sequential presentation of photographic arrays; 7) blind versus non-blind administration of photographic arrays; and 8) memory, but only to the narrow point regarding its rapid deterioration. The state's motion to exclude Penrod's testimony on these factors is denied. The state's motion to exclude Penrod's testimony regarding confidence malleability is granted.

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Prescott, J.