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A Survey of Judges' Knowledge and Beliefs About Eyewitness Testimony

Richard A. Wise & Martin A. Safer

Forensic DNA testing suggests that potentially large numbers of innocent persons are being convicted of crimes.[1] Case studies conducted both prior to and following the advent of DNA testing indicate that eyewitness error is at least partially responsible for the majority of wrongful convictions. Empirical research has shown which factors contribute to eyewitness error and has identified procedural changes that could be made in the criminal justice system to significantly reduce the number of erroneous eyewitness identifications.[2]

We report the results of a brief survey of what U.S. judges know and believe about eyewitness testimony. The present survey highlights what judges already know about these eyewitness factors and procedural changes and indicates what additional knowledge judges may need to significantly reduce the number of wrongful convictions.

THE NUMBER OF WRONGFUL CONVICTIONS

Although there is no precise figure, it is possible to suggest lower and upper estimates for the annual number of wrongful convictions in the Unites States. Almost 1 million persons were convicted of felonies in the United States in 1998.[3] Huff surveyed criminal justice officials in Ohio and, based on their answers, estimated that wrongful convictions occur in about 1 of every 200 felony criminal cases (.5%).[4] Huff's estimate would translate into 5,000 wrongful felony convictions in 1998. However, DNA testing of criminal suspects suggests that the percentage of wrongful convictions may be much higher than .5%.

In 1995 a survey of public and private forensic laboratories in the United States indicated that they had conducted DNA tests in 21,621 criminal cases.[5] DNA testing excluded suspects in approximately 23% of the cases. The exclusion rate would be about 27% if cases with inconclusive tests were omitted.

A number of studies have estimated that one-half of all persons charged with serious crimes are ultimately convicted.[6] Accordingly, if the suspects cleared by DNA evidence are similar to the suspects who would have been indicted prior to the widespread use of DNA testing, then there may have been a false conviction rate in the past of greater than 10% for cases where DNA testing is now possible. Dripps asserts that DNA-exonerated suspects are very similar to the persons who would have been indicted prior to the use of DNA testing.[7] More importantly, Dripps argues that factors such as eyewitness error, which might have led to wrongful indictments in DNA cases, continue to produce wrongful indictments in the vast majority of criminal cases where there is no testable biological evidence. A false conviction rate of 10% would imply almost 100,000 wrongful felony convictions every year. Clearly, the high exclusion rates in DNA testing of suspects, along with the well-publicized cases of post-conviction DNA exonerations, challenge the presumption that wrongful convictions rarely occur. Indeed, they strongly suggest that more innocent persons than previously believed are being wrongfully convicted of felonies.

ERRONEOUS EYEWITNESS IDENTIFICATIONS

Eyewitness error occurs in half or more of all wrongful convictions. Thus, Borchard reported that eyewitness error occurred in 45% of 65 cases of wrongful conviction,[8] Huff found eyewitness error in nearly 60% of approximately 500 wrongful convictions,[9] and Rattner concluded that eyewitness

Footnotes

Authors' Note: This article is based on Richard A. Wise's dissertation, which was submitted in partial fulfillment of requirements for a doctoral degree in psychology awarded by the Catholic University of America. The internet version of the survey may be viewed at http://research.cua.edu/eyewitness. Correspondence concerning this article should be addressed to Martin A. Safer, Department of Psychology, Catholic University of America, Washington, DC 20064. E-mail: Safer@cua.edu.

1. *See generally*, Donald A. Dripps, *Miscarriages of Justice and the Constitution,* 2 BUFF. CRIM. L. REV. 635 (1999).
2. *See* John C. Brigham et al., *Disputed Eyewitness Identification Evidence: Important Legal and Scientific Issues*, 36 CT. REV., Summer 1999, at 12-25; *see also* Saul M. Kassin et al., *On the "General Acceptance" of Eyewitness Testimony Research: A New Survey of the Experts*, 56 AM. PSYCHOLOGIST 405-16 (2001).
3. *Criminal Sentencing Statistics (2002)*, U.S. Department of Justice, Bureau of Statistics, http://www/ojp.usdoj.gov/bjs/sent.htm (last visited August 19, 2002).
4. C. Ronald Huff, *Wrongful Conviction: Societal Tolerance of Injustice*, 4 RES. IN SOC. PROBS. & PUB. POL'Y 99-115 (1987).
5. Edward Connors et al., *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial*, Dep't Justice, National Institute of Justice (1996).
6. *See e.g.,* Dripps, *supra* note 1.
7. *Id.*
8. EDWIN BORCHARD, CONVICTING THE INNOCENT (1932).
9. Huff, *supra* note 4.

error occurred in 52% of 205 wrongful convictions.[10] These wrongful convictions studies were conducted before the invention of DNA testing, and the different authors included some of the same cases in their analyses. Scheck et al. analyzed 62 cases where DNA evidence exonerated persons convicted of felonies, and they found that mistaken identifications were involved in 52 of the 62 cases (84%).[11] Seventy-seven witnesses in these 52 cases had erroneously identified the defendants as the perpetrators of the crimes. At trial, these witnesses undoubtedly appeared very confident in their identifications.

EMPIRICAL RESEARCH ON EYEWITNESS FACTORS

Over the past 30 years, researchers have documented extensively many factors and procedures that can affect the accuracy of eyewitness identification.[12] For example, researchers have shown that the presence of a weapon can impair an eyewitness's ability to accurately identify the perpetrator's face;[13] that an eyewitness's confidence can be influenced by post-event experiences that are unrelated to identification accuracy;[14] and that a law officer who knows which member of a lineup or photo array is the suspect can bias a witness's selection.[15] Researchers have also developed new techniques for interviewing witnesses that yield more complete reports, as well as identified simple procedural changes that could be made in the criminal justice system, which would reduce the number of eyewitness identification errors.[16]

The present study is the first to determine judges' knowledge about a wide range of factors and procedures that affect eyewitness accuracy. Judges also indicated what they believe jurors know about eyewitness factors, and what legal safeguards they would permit attorneys to use to inform jurors about the effects of eyewitness factors on identification accuracy. Judges' answers to these two questions are important because research indicates that jurors do not know how many eyewitness factors affect identification accuracy.[17] Research has also shown that expert testimony is the only legal safeguard that is effective in sensitizing jurors to eyewitness factors.[18] Nonetheless, the most common reason judges give for excluding eyewitness expert testimony at trial is that the expert's testimony is within the knowledge of the jury[19] and, therefore, "would not assist the trier of fact."

In summary, our survey may help identify some facets of eyewitness testimony where judges need additional training. It may also give some indication of how accurately judges perceive jurors' knowledge of eyewitness testimony, and how willing they are to permit legal safeguards, including expert testimony.

Research has shown that expert testimony is the only legal safeguard that is effective in sensitizing jurors to eyewitness factors.

METHOD

A request to complete a brief, anonymous ten-minute questionnaire on eyewitness testimony was distributed on the listserves of the American Judges Association and the Judicial Division of the American Bar Association. Judges were informed that they could complete the survey on the linked website, print out the survey from the website and mail it, or request a copy of the survey from its authors and then return it by mail.

We obtained 143 completed questionnaires on the website and 17 completed paper surveys, for a total sample of 160. The respondents included 142 state judges, 10 federal judges, 7 retired judges, and 1 Indian tribal judge. There were 146 trial judges, 6 appellate judges, and 8 (mainly the retired judges) who did not indicate their current position. Prior to becoming judges, 22 respondents had been prosecutors (14%), 42 had been defense attorneys (26%), 57 had been both prosecutors and defense attorneys (36%), and 39 had not practiced criminal law (24%). Respondents had practiced law for an average of 13.96 years and had been on the bench for an average of 12.48 years.

The questionnaire covered many key issues about eyewitness testimony. The judges were asked to indicate their agreement or disagreement with 14 statements about eyewitness factors and procedures, to answer 4 other related questions, and to provide personal background information that was summarized in the preceding paragraph. The eyewitness factors and procedures in the 14 statements were selected because of strong

10. Arye Rattner, *Convicted But Innocent*, 12 LAW & HUM. BEHAV. 283-93 (1988).
11. BARRY SCHECK ET AL., ACTUAL INNOCENCE: FIVE DAYS TO EXECUTION AND OTHER DISPATCHES FROM THE WRONGLY CONVICTED (2000).
12. *See* Gary Wells et al., *From Lab to the Police Station: A Successful Application of Eyewitness Research*, 55 AM. PSYCHOLOGIST 581-98 (2000).
13. Elizabeth Loftus et al., *Some Facts about "Weapon Focus,"* 11 LAW & HUM. BEHAV. 55-62 (1987); *see also* Nancy M. Steblay, *A Meta-Analytic Review of the Weapon Focus Effect*, 16 LAW & HUM. BEHAV. 413-24 (1992).
14. *See* C. A. Elizabeth Luus & Gary Wells, *The Malleability of Eyewitness Confidence: Co-witness and Perseverance Effects*, 79 J. APPLIED PSYCHOL. 714-23 (1994); John S. Shaw, *Increases in Eyewitness Confidence Resulting from Postevent Questioning*, 2 J. EXPERIMENTAL PSYCHOL.: APPLIED 126-46 (1996).
15. Mark R. Phillips et al., *Double-Blind Photoarray Administration as a Safeguard Against Investigator Bias*, 84 J. APPLIED PSYCHOL. 940-51 (1999).
16. *See* Wells, *supra* note 12.
17. *See e.g.*, R. C. Lindsay et al., *Mock Juror Belief of Accurate and Inaccurate Witnesses*, 13 LAW & HUM. BEHAV. 333-39 (1989) [hereinafter Lindsay (1989)]; R. C. Lindsay et al., *Can People Detect Eyewitness Identification Accuracy Within and Across Situations?*, 66 J. APPLIED PSYCHOL. 79-89 (1981) [hereinafter Lindsay (1981)]; Gary Wells et al., *Accuracy, Confidence, and Juror Perceptions in Eyewitness Identification*, 64 J. APPLIED PSYCHOL. 440-48 (1979) [hereinafter Wells (1979)].
18. *See* Steven D. Penrod & Brian L. Cutler, *Preventing Mistaken Convictions in Eyewitness Identification Trials*, *in* PSYCHOLOGY AND LAW: THE STATE OF THE DISCIPLINE 89-118 (Ronald Roesch et al. eds., 1999).
19. Cindy J. O'Hagen, Note, *When Seeing Is Not Believing: The Case for Eyewitness Expert Testimony*, 81 GEO. L.J. 741, 758 (1993).

empirical evidence on how they affect identification accuracy, and because they describe issues that occur frequently in criminal trials. For 5 of the eyewitness statements, the judges also indicated how they believed the average juror would answer the statement and what legal safeguards they would permit attorneys to use to inform jurors about the effects of the eyewitness factors on identification accuracy. For 8 of the eyewitness statements (Statements 3, 5-11), we were able to compare the judges' responses to those of 64 experts on eyewitness testimony.[20] The experts answered whether the eyewitness statement was sufficiently reliable for an expert to testify about in court and whether knowledge of how the factor affects identification accuracy is a matter of common sense.

RESULTS

We first report the judges' responses to the 14 statements about eyewitness factors and the 4 related questions, and where appropriate, we provide a brief justification for the correct answer. We have renumbered the statements from the original survey to improve the clarity and conciseness of this report. In Tables 1, 2, and 5, an asterisk next to a response indicates a correct answer. Percentages were rounded to the nearest whole number and, therefore, may not total exactly 100% for every statement. In calculating percent correct, we combined the judges' responses of "strongly agree" and "agree," as well as the responses of "strongly disagree" and "disagree," because judges rarely responded, "strongly agree" or "strongly disagree."

EYEWITNESS STATEMENTS 1-6

1. **It is significantly harder for a witness of a crime to recognize a perpetrator who is wearing a hat during the commission of a crime than a perpetrator who is not wearing a hat.** Even simple disguises can reduce identification accuracy.[21] A hat disguises hair and facial shape, which are important cues to recognizing a person's face.[22] Only 45% of the judges correctly answered that it is significantly harder to recognize a perpetrator who is wearing a hat. (See Table 1, row 1.)

2. **A witness's ability to recall minor details about a crime is a good indicator of the accuracy of the witness's identification of the perpetrator of the crime.** Memory for minor or peripheral details is inversely related to eyewitness accuracy, because an eyewitness who attends to peripheral details has fewer resources available to process the perpetrator's face.[23] Only 24% of the judges correctly disagreed with this eyewitness statement. The majority of judges (57%) mistakenly believed that an eyewitness's ability to recall peripheral details about a crime indicates that the witness has a better memory than a witness who cannot recall peripheral details.

3. **An eyewitness's perception and memory for an event may be affected by his or her attitudes and expectations.** Expectancies can exert a powerful influence on attention and recall of relevant information.[24] In the Kassin survey,

TABLE 1
DISTRIBUTION OF JUDGES' RESPONSES TO EYEWITNESS STATEMENTS 1-6

Topic	Strongly agree	Agree	Neither	Disagree	Strongly disagree
1. Effects of a hat	6%*	39%*	50%	6%	0%
2. Minor details	4%	53%	20%	22%*	2%*
3. Attitudes & expectations	26%*	69%*	4%	1%	1%
4. Conducting lineups	25%*	38%*	18%	20%	1%
5. Effects of post-event information	17%*	67%*	8%	6%	1%
6. Confidence-accuracy	3%	31%	34%	28%*	5%*

Note: The asterisks next to the responses in the table indicate the correct answers.

20. *See* Kassin, *supra* note 2.
21. *See generally* K. E. Patterson & A. D. Baddeley, *When Face Recognition Fails*, 3 J. EXPERIMENTAL PSYCHOL.: HUM. LEARNING & MEMORY 406-17 (1977); Peter N. Shaprio & Steven D. Penrod, *Meta-Analysis of Facial Identification Studies*, 100 PSYCHOL. BULL. 139-56 (1986).
22. Brian L. Cutler et al., *Improving the Reliability of Eyewitness Identification: Putting Context into Context*, 72 J. APPLIED PSYCHOL. 629-37 (1987); Brian L. Cutler et al., *The Reliability of Eyewitness Identifications: The Role of System and Estimator Variables*, 11 LAW & HUM. BEHAV. 223-58 (1987).
23. *See* Gary Wells & Michael R. Leippe, *How Do Triers of Fact Infer the Accuracy of Eyewitness Identifications? Using Memory for Peripheral Detail Can Be Misleading*, 66 J. APPLIED PSYCHOL. 682-87 (1981); BRIAN L. CUTLER & STEVEN D. PENROD, MISTAKEN IDENTIFICATIONS: THE EYEWITNESS, PSYCHOLOGY, AND THE LAW (1995).
24. Edward R. Hirt et al., *Expectancies and Memory: Inferring the Past from What Must Have Been*, *in* HOW EXPECTANCIES SHAPE EXPERIENCE 93-124 (Irving Kirsch ed., 1999).

92% of the eyewitness experts agreed that this statement was sufficiently reliable to present in court.[25] Of the judges, 95% agreed with this statement, and, therefore, there was no significant difference between the experts' and judges' responses to this statement.

4. **A police officer who knows which member of the lineup or photo array is the suspect should not conduct the lineup or photo array.** A lineup administrator can intentionally or unintentionally influence a witness to select the suspect from a lineup or photo array.[26] In the survey, 63% of the judges correctly answered that a lineup administrator should not know who is the suspect. However, in most criminal cases, the police officer who conducts the lineup knows which lineup member is the suspect, and the police are reluctant to change this practice.[27]

5. **Eyewitness testimony about an event often reflects not only what a witness actually saw but information obtained later on.** Post-event information can influence eyewitnesses' description of a crime, their description of the perpetrator of the crime, and which member of a lineup they identify as the perpetrator.[28] Altogether, 84% of the judges correctly agreed with this statement, as did 94% of the eyewitness experts, which is not a significant difference.

6. **At trial, an eyewitness's confidence is a good predictor of his or her accuracy in identifying the defendant as the perpetrator of the crime.** This is a particularly important statement because jurors rely heavily on eyewitness confidence in evaluating identification accuracy.[29] However, by the time of trial, eyewitness confidence has little probative value because of the many post-identification factors that affect confidence, but have no effect on identification accuracy.[30] (See also statement 5 for the effects of post-event information and statement 7 for a discussion of "confidence malleability.") Almost all eyewitness experts would disagree with Statement 6.[31] In sharp contrast, there was little consensus among the judges on this critical question. Only 33% of the judges correctly disagreed, 34% wrongly agreed, and 34% neither agreed nor disagreed. Clearly, the correct answer to this very important issue is not a matter of "common sense."

EYEWITNESS STATEMENTS 7-11

For eyewitness statements 7 through 11, the judges answered for themselves, as well as for how they believed the average juror would respond to the eyewitness statement. In Table 2, the percentages in italics before the slash are what the judges believed about the eyewitness statement. Percentages after the slash are what the judges believed the average juror

TABLE 2
DISTRIBUTION OF JUDGES' RESPONSES TO EYEWITNESS STATEMENTS 7-11, AND WHAT JUDGES BELIEVE JURORS KNOW ABOUT THESE STATEMENTS

Topic	Generally true	Generally false	Jurors do not know
7. Confidence malleability	*90%** / 36%	*1%* / 4%	—- / 32%
8. Weapon focus	*69%** / 24%	*4%* / 9%	—- / 37%
9. Mug-shot-induced bias	*74%** / 38%	*4%* / 3%	—- / 28%
10. Lineup format	*19%** / 4%	*15%* / 6%	—- / 29%
11. Forgetting curve	*31%** / 18%	*25%* / 13%	—- / 30%

Note: The asterisks next to the responses in the table indicate the correct answers. The percentages in italics before the slash are what the judges believed about the eyewitness statements. The percentages after the slash are what the judges believed the average juror thinks about the statement. "I don't know" responses by judges, either as to their own knowledge or indicating they did not know what jurors would understand about an issue, are not reported here.

25. Kassin, *supra* note 2.
26. *See* Lynn Garrioch & C. A. Elizabeth Brimacombe, *Lineup Administrator's Expectations: Their Impact on Eyewitness Confidence*, 25 LAW & HUM. BEHAV. 299-315 (2001); Phillips, *supra* note 15.
27. Wells, *supra* note 12.
28. *See* Robert E. Christiaansen et al., *Influencing Eyewitness Descriptions*, 7 LAW & HUM. BEHAV. 59-65 (1983); Elizabeth F. Loftus & Edith Greene, *Warning: Even Memory for Faces May Be Contagious*, 4 LAW & HUM. BEHAV. 323-34 (1980); ELIZABETH F. LOFTUS, EYEWITNESS TESTIMONY (1979).
29. Gary Wells et al., *Eyewitness Identifications Procedures: Recommendations for Lineups and Photospreads*, 22 LAW & HUM. BEHAV. 603-47 (1998).
30. John S. Shaw III & Kimberley A. McClure, *Repeated Postevent Questioning Can Lead to Elevated Levels of Eyewitness Confidence*, 20 LAW & HUM. BEHAV. 629-53 (1996); Wells, *supra* note 29.
31. The Kassin experts actually rated the statement "An eyewitness's confidence is not a good predictor of his or her identification accuracy." Kassin, *supra* note 2. In the judges' survey, we slightly rewrote the statement as well as added the introductory phrase "at trial" because judges are likely to be confronted with this issue at trial rather than in the investigatory phase of a case. Altogether, 87% of the experts thought that the lack of a strong relationship between confidence and accuracy was a reliable enough fact to present in courtroom testimony. Because witness confidence becomes even less predictive of accuracy over time (see statement 7 on confidence malleability), we suspect that nearly 100% of the experts would have disagreed with the modified confidence-accuracy statement in the judges' survey.

thinks about the statement. The correct answer for each of these five statements is "generally true." (See Tables 2 and 3.)

7. **An eyewitness's confidence can be influenced by factors that are unrelated to identification accuracy.** Factors such as post-event questioning, witness preparation and rehearsal, and confirming feedback can greatly increase a witness's confidence without a corresponding change in a witness's accuracy.[32] In Kassin's survey, 95% of the eyewitness experts agreed with this statement,[33] as did 90% of the judges in the current survey. This nearly unanimous agreement about the effects of "confidence malleability" contrasts with the judges' response to statement 6, where only 33% of the judges correctly disagreed with the statement, "At trial, an eyewitness's confidence is a good indicator of identification accuracy." Judges apparently do not fully appreciate the extent that confidence malleability can undermine the value of eyewitness confidence as a predictor of eyewitness accuracy at trial.

   Only 10% of the experts believed that the average juror would be aware of the relationship between confidence malleability and eyewitness accuracy. In contrast, 36% of the judges believed the average juror would think statement 7 to be generally true. Thus, a significantly larger percentage of judges than experts thought that the average juror would know the correct answer to this statement.

8. **The presence of a weapon can impair an eyewitness's ability to accurately identify the perpetrator's face.** A weapon impairs an eyewitness's ability to identify the perpetrator of a crime.[34] In the Kassin survey, 87% of the eyewitness experts agreed with this statement, and 34% of the experts believed that understanding the statement was a matter of common sense (i.e., the average juror would understand the effect of weapon focus on eyewitness accuracy).[35] Of the judges, 69% correctly believed this statement was true, and 24% believed that jurors would think the statement was true. In short, the percentage of judges who agreed with this statement was significantly less than the percentage of experts. However, their beliefs about whether the average juror would know the correct answer did not differ significantly from the experts.

9. **Exposure to mug shots of a suspect increases the likelihood that the witness will later choose the suspect from a lineup.** Researchers have shown that a witness who views a mug shot of a suspect is more likely to later choose that person from a lineup, in comparison to a witness who did not see the mug shot.[36] In Kassin's survey, 95% of the eyewitness experts agreed that there was a mug shot induced bias, and 13% indicated that understanding it was a matter of common sense.[37] Of the judges, 74% agreed with the statement, and 38% responded that the average juror was aware of the mug-shot-induced bias. Thus, a significantly smaller percentage of judges than experts agreed with this statement, but, a significantly larger percentage of judges than experts believed that understanding the mug-shot-induced bias is a matter of common sense.

10. **Witnesses are more likely to misidentify someone in a culprit-absent lineup when it is presented in a simultaneous (i.e., all members of a lineup are present at the same time) as opposed to a sequential procedure (i.e., all members of a lineup are presented individually).** The traditional simultaneous lineup encourages witnesses to make a relative judgment about which lineup member most closely resembles the perpetrator of the crime.[38] In sequential lineups, the eyewitness makes a yes-no decision about a

TABLE 3
DISTRIBUTION OF EXPERTS' RESPONSES TO EYEWITNESS STATEMENTS 7-11, AND WHAT THEY BELIEVE JURORS KNOW ABOUT THESE STATEMENTS (KASSIN, *SUPRA* NOTE 2).

Topic	The eyewitness statement is sufficiently reliable for an expert witness to present in court.	The correct answer is a matter of common sense.
7. Confidence malleability	95%	10%
8. Weapon Focus	87%	34%
9. Mug-shot-induced bias	95%	13%
10. Lineup format	81%	0%
11. Forgetting curve	83%	29%

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32. *See generally* Wells, *supra* note 29; Shaw & McClure, *supra* note 30; Gary Wells & Amy L. Bradfield, *Distortions in Eyewitnesses' Recollections: Can the Postidentification-Feedback Effect Be Moderated?*, 10 PSYCHOL. SCI.138-44 (1999).
33. Kassin, *supra* note 2.
34. *See* Steblay, *supra* note 13; Patricia A. Tollestrup et al., *Actual Victims and Witnesses to Robbery and Fraud: An Archival Analysis*, *in* ADULT EYEWITNESS TESTIMONY: CURRENT TRENDS AND DEVELOPMENTS 144-160 (David F. Ross et al. eds., 1994).
35. Kassin, *supra* note 2.
36. *See e.g.*, Evan Brown et al., *Memory for Faces and Circumstances of Encounter*, 53 J. APPLIED PSYCHOL. 311-18 (1977).
37. Kassin, *supra* note 2.
38. *See* R. C. Lindsay & Gary Wells, *Improving Eyewitness Identification from Lineups: Simultaneous Versus Sequential Lineup Presentations*, 70 J. APPLIED PSYCHOL. 556-64 (1985).

lineup member without knowing the number or characteristics of other members in the lineup. Studies that have compared simultaneous and sequential lineups have consistently found that sequential lineups significantly lower the risk of false identifications compared to simultaneous lineups without reducing the number of accurate identifications.[39]

In Kassin's survey, 81% of the experts agreed with a slightly different phrasing of this statement, and 0% thought it was a matter of common sense.[40] Of the judges, 67% neither agreed nor disagreed with the statement, which suggests that most of the judges are unfamiliar with the differences between sequential and simultaneous lineups.[41] Only 19% of the judges correctly agreed with the statement, and 4% of the judges thought the average juror would agree. Thus, the percentage of experts and judges who agreed with this statement differed significantly. However, a similar negligible percentage of experts and judges believed that the answer to this statement was a matter of common sense.

11. **The rate of memory loss for an event is greatest right after an event and then levels off over time.** This statement describes the relatively rapid loss of memory for the details of an event, such as a crime, which takes place shortly after an event occurs.[42] In the Kassin survey, 83% of the experts agreed, and 29% of them stated that understanding the forgetting curve was a matter of common sense.[43] In contrast, only 31% of the judges agreed that it was generally true, and 18% stated that the average juror would agree. Moreover, 44% of the judges answered that they "don't know" the answer to this eyewitness statement. In sum, there was a considerable difference between the percentage of judges and experts who agreed with this statement. This implies that a large number of the judges are unaware that an eyewitness's memory for the details of a crime decreases rapidly shortly after the crime occurred. Similar percentages of judges and experts believed that understanding the forgetting curve is not a matter of common sense.

In sum, for eyewitness statements 7-11, the responses of the judges and experts differed significantly on weapon focus, exposure to mug shots, lineup format, and the forgetting curve. Moreover, a significantly larger percentage of judges than experts believed that the correct answers to two of the five statements (confidence malleability and exposure to mug shots) were a matter of common sense. However, for each of the five statements, judges were much more likely to know the correct answer themselves than to believe that the average juror would know the correct answer. Thus the judges, like the eyewitness experts, believe that knowledge of factors and procedures affecting eyewitness testimony is not just a matter of common sense.

[T]he responses of the judges and experts differed significantly on weapon focus, exposure to mug shots, lineup format, and the forgetting curve.

USE OF LEGAL SAFEGUARDS

For eyewitness statements 7 through 11, the judges were also asked which, if any, of five legal safeguards (i.e., voir dire, cross-examination, expert witness, closing argument, and jury instruction) they would permit an attorney to use to inform a jury about the effect of the eyewitness statement on identification accuracy. They could choose as many or as few of the five legal safeguards as they believed were necessary. They could also respond that they would not permit any of these safeguards or that they did not know what safeguard they would permit. As shown in Table 4, the percentage of judges who would permit a particular safeguard, averaged across the five eyewitness statements, was 53% for voir dire questions, 80% for cross-examination questions, 44% for expert witness, 74% for closing arguments, and 24% for jury instructions. Of the judges, 35% would not permit expert testimony for any of the five eyewitness statements, even though expert testimony is the only safeguard that has been shown to be effective in increasing jurors' sensitivity to eyewitness factors.[44]

39. *See e.g.*, Brian L. Cutler & Steven D. Penrod, *Improving the Reliability of Eyewitness Identification: Lineup Construction and Presentation*, 73 J. APPLIED PSYCHOL. 281-90 (1988); Lindsay & Wells, *supra* note 38; Nancy M. Steblay et al., *Eyewitness Accuracy Rates in Sequential and Simultaneous Lineup Presentations: A Meta-Analytic Comparison*, 25 LAW & HUM. BEHAV. 459-73 (2001).
40. Kassin, *supra* note 2. Kassin's eyewitness statement on lineup format stated: "Witnesses are more likely to misidentify someone by making a relative judgment when presented with a simultaneous (as opposed to sequential) lineup." Furthermore, Kassin's survey of eyewitness experts was conducted prior to the publication of Steblay's meta-analytic review (*see* Steblay, *supra* note 39) that showed that sequential lineups significantly lower the risk of false identifications compared to simultaneous lineups without reducing the number of accurate identifications. If this review had been published prior to the eyewitness experts completing Kassin's survey, undoubtedly a higher percentage of them would have agreed that sequential lineups reduce the number of false identifications compared to simultaneous lineups.
41. *See* Veronica Stinson et al., *How Effective Is the Motion-to-Suppress Safeguard? Judges' Perceptions of the Suggestiveness and Fairness of Biased Lineup Instructions*, 82 J. APPLIED PSYCHOL. 211-20 (1997).
42. Kenneth A. Deffenbacher, *A Maturing of Research on the Behavior of Eyewitnesses*, 5 APPLIED COGNITIVE PSYCHOL. 377-402 (1991).
43. Kassin, *supra* note 2.
44. Brian L. Cutler et al., *Juror Sensitivity to Eyewitness Identification Evidence*, 14 LAW & HUM. BEHAV. 185-91 (1990); Penrod & Cutler, *supra* note 18. Several studies have shown that jury instructions are ineffective in educating jurors about the effects of eyewitness factors on identification accuracy. See Edith Greene, *Judge's Instructions on Eyewitness Testimony: Evaluation and Revision,* 18 J. APPLIED PSYCHOL. 252 (1988); Garbriella Ramierez, Dennis Zemba, and R. Edward Geiselman, *Judges' Cautionary Instructions on Eyewitness Testimony,* 14 AM. J. FORENSIC PSYCHOL. 31 (1996).

GENERAL PRINCIPLES OF EYEWITNESS TESTIMONY

Eyewitness statements 1 through 11 tested the judges' knowledge of specific eyewitness factors, such as whether a hat makes it significantly more difficult for an eyewitness to identify the perpetrator of the crime. Eyewitness statements 12 through 16 are grouped together because they all concern more general principles of eyewitness testimony.

12. **Attorneys know how most eyewitness factors affect identification accuracy.** Several studies show that attorneys have limited knowledge of eyewitness factors.[45] Only 41% of the judges correctly disagreed with the statement that attorneys know how most eyewitness factors affect identification accuracy.

13. **Jurors know how most eyewitness factors affect identification accuracy.** Researchers have used questionnaires, prediction studies, and simulated trials to determine how knowledgeable jurors are about eyewitness testimony. All three methods have shown that jurors have limited knowledge of eyewitness factors.[46] In the survey, 64% of the judges correctly disagreed that jurors know how most eyewitness factors affect identification accuracy. Accordingly, a majority of judges in the survey realize that knowledge of how eyewitness factors affect identification accuracy is not just a matter of common sense.

TABLE 4
PERCENTAGES OF JUDGES WHO WOULD PERMIT A PARTICULAR LEGAL SAFEGUARD TO BE USED FOR EYEWITNESS STATEMENTS 7-11.

Eyewitness Factor	Voir dire	Cross	Expert	Close	Jury instru.	No action	Don't know
7. Confidence malleability	58%	86%	45%	79%	27%	1%	6%
8. Weapon focus	66%	91%	51%	86%	34%	0%	2%
9. Mug-shot-induced bias	60%	87%	43%	80%	29%	1%	6%
10. Lineup format	35%	62%	37%	56%	14%	7%	22%
11. Forgetting curve	46%	72%	44%	70%	17%	6%	13%
Average	53%	80%	44%	74%	24%	3%	10%

Note: Voir dire=voir dire questions, cross=cross-examination, expert=expert witness, close=closing argument, and jury instru.= jury instruction

TABLE 5
DISTRIBUTION OF JUDGES' RESPONSES TO EYEWITNESS STATEMENTS 12-15

Topic	Strongly agree	Agree	Neither	Disagree	Strongly disagree
12. Attorney's knowledge	3%	29%	28%	40%*	1%*
13. Jurors' knowledge	1%	9%	26%	51%*	13%*
14. Jurors distinguish eyewitnesses	1%	28%	33%	31%*	8%*
15. Convictions solely from eyewitnesses	5%	18%	29%	36%	12%

Note: The asterisks indicate the correct answers to the eyewitness statements. There is no correct answer for eyewitness statement 15.

45. *See generally* John C. Brigham & Melissa P. Wolfskeil, *Opinions of Attorneys and Law Enforcement Personnel on the Accuracy of Eyewitness Identifications*, LAW & HUM. BEHAV. 337-49 (1983); George L. Rahaim & Stanley L. Brodsky, *Empirical Evidence Versus Common Sense: Juror and Lawyer Knowledge of Eyewitness Accuracy*, 12 LAW & HUM. BEHAV. 1-15 (1982); Stinson, *supra* note 41; A. Daniel Yarmey & Hazel P. Jones, *Is the Psychology of Eyewitness Identification a Matter of Common Sense?*, *in* EVALUATING WITNESS EVIDENCE 13-40 (Sally M. A. Lloyd-Bostock & Brian R. Clifford eds., 1983).

46. *See* John C. Brigham & Robert K. Bothwell, *The Ability of Prospective Jurors to Estimate the Accuracy of Eyewitness Identifications*, 7 LAW & HUM. BEHAV. 19-30 (1983); Saul M. Kassin & Kimberly A. Barndollar, *The Psychology of Eyewitness Testimony: A Comparison of Experts and Prospective Jurors*, 22 J. APPLIED PSYCHOL. 1241-49 (1992); Lindsay (1981), *supra* note 17.

14. **Jurors can distinguish between accurate and inaccurate eyewitnesses.** In several studies, researchers have staged crimes and then had witnesses testify about the events in mock trials. Some witnesses were accurate and some were inaccurate, but mock jurors were generally unable to distinguish between the testimony of accurate versus inaccurate witnesses.[47] The results indicated that 29% of the judges agreed with this statement, 33% neither agreed nor disagreed, and 39% correctly disagreed with this statement. Accordingly, for this critical eyewitness statement, most judges were unaware of jurors' inability to distinguish accurate and inaccurate eyewitnesses.

15. **Only in exceptional circumstances should a defendant be convicted of a crime solely on the basis of eyewitness testimony.** Only 23% of the judges agreed with this summary statement, even though the unreliability of some eyewitness testimony, and jurors' inability to distinguish accurate from inaccurate witnesses, suggests that this statement may be true.

16. **Out of 100 cases of wrongful felony convictions, how many do you think on average would be due at least in part to eyewitness error?** A conservative estimate is that eyewitness error occurs in at least half of all wrongful felony convictions.[48] Thirty-one judges (19%) did not respond to this question, which suggests that many judges were unsure how often erroneous eyewitness identifications play a role in wrongful convictions. Of the 129 judges who responded to this eyewitness statement, the mean estimate was 37.86 cases. Only 43% of the respondents estimated that eyewitness error plays a role in at least half of all wrongful convictions.

EDUCATION ABOUT EYEWITNESS TESTIMONY

Eyewitness statements 17 and 18 ascertained what types of eyewitness educational materials the judges have been exposed to, and whether they believe that judges should receive more eyewitness training. The bolded statements for 17 and 18 are not the exact statements in the survey.

17. **The judges' exposure to educational eyewitness materials.** Of the judges, 71% reported that they had read a law review or psychological article about eyewitness testimony, 26% had read a book on eyewitness testimony, and 69% had attended a lecture or seminar on eyewitness testimony. Only 14% of the judges reported that they had not been exposed to any type of educational materials on eyewitness testimony.

18. **Whether judges should receive more training about eyewitness testimony.** In the survey, 75% responded that judges should receive more training on eyewitness testimony, 10% responded that judges receive adequate training, and 15% did not know if judges should receive more training.

[J]udges in the survey appear to have a limited understanding of eyewitness factors, as they averaged only about 55% correct on the 14-item knowledge scale.

CORRELATES OF JUDGES' KNOWLEDGE OF EYEWITNESS TESTIMONY

Empirical research clearly identifies a correct answer for eyewitness statements 1 through 14, and on average for the 14 statements, judges answered correctly 55% of the time (i.e., averaged 7.66 correct answers). We computed correlations to ascertain whether knowledge of eyewitness factors was related to other beliefs about eyewitness testimony.[49] Judges who were most knowledgeable, based on the number of correct answers to these 14 statements, also tended to be more critical of the value of eyewitness testimony. More knowledgeable judges were: (a) more likely to know that eyewitness error plays an important role in wrongful convictions (statement 16); (b) more likely to agree that only in exceptional circumstances should a defendant be convicted solely on the basis of eyewitness testimony (statement 15); (c) more likely to believe that jurors have limited knowledge of eyewitness factors (judgments about jurors in statements 7 to 11); (d) more likely to permit the use of legal safeguards, including expert testimony to educate jurors about eyewitness factors (judgments about safeguards in statements 7 to 11); and (e) more likely to agree that judges need more training on eyewitness factors (statement 18). Thus, greater knowledge of eyewitness factors was associated with a variety of beliefs and behaviors that may be necessary for judges to reduce the number of wrongful convictions.

The judges in the survey on average had practiced law for 14 years, had been on the bench for 12 years, and 76% of them had been a prosecutor, defense attorney, or both prior to becoming a judge. There was no significant relationship between knowledge of eyewitness factors and either legal experience, prior criminal law experience, judicial experience, or judicial position. Thus, even extensive legal and judicial experience does not ensure that judges know how eyewitness factors and investigative procedures affect the accuracy of eyewitness testimony.

In summary, judges in the survey appear to have a limited understanding of eyewitness factors, as they averaged only about 55% correct on the 14-item knowledge scale. The judges also showed little consensus on several important issues, such as whether at trial, eyewitness confidence is a good indicator of eyewitness accuracy, and if jurors can distinguish accurate from inaccurate eyewitnesses. Many judges appeared to be unfamiliar with simultaneous lineups, with the forgetting curve, and

47. Lindsay (1989), *supra* note 17; Lindsay (1981), *supra* note 17; Wells (1979), *supra* note 17.
48. BORCHARD, *supra* note 8; Huff, *supra* note 4; Rattner, *supra* note 10; SCHECK, *supra* note 11.
49. Richard A. Wise & Martin A. Safer (in press), *What U.S. Judges Know and Believe About Eyewitness Testimony,* 18 APPLIED COGNITIVE PSYCHOL. (2004).

Increasing judges' knowledge of eyewitness testimony may be an important step in reducing wrongful convictions.

with studies indicating that half or more of all wrongful felony convictions are due at least in part to eyewitness error. However, most judges were aware of how attitudes and expectations, administrator-blind lineups, post-event information, weapon focus, mug-shot-induced bias, and confidence malleability affect identification accuracy.

JUDGES' BELIEFS ABOUT JURORS' KNOWLEDGE OF EYEWITNESS TESTIMONY

The most frequent reason judges give for not permitting an eyewitness expert to testify during a trial is their belief that the subject matter of the expert's testimony is already within the knowledge of the jurors.[50] For each of the five eyewitness statements (7-11) where judges were asked if jurors know the correct answer to the statement, a majority of the judges responded that jurors did not know the answer. For each of the five statements, judges were much more likely to know the correct answer themselves than to believe that jurors know the correct answer. On statement 13, 64% of the judges disagreed with the statement that jurors know how most eyewitness factors affect identification accuracy. Thus, contrary to what published judicial opinions sometimes suggest, judges appear to believe that jurors have a limited understanding of eyewitness factors. On the other hand, the judges' beliefs about jurors' knowledge of eyewitness testimony may simply reflect their own difficulty in responding to the questionnaire.

EDUCATION ABOUT EYEWITNESS FACTORS

Judges' self-reported exposure to educational materials on eyewitness testimony (e.g., reading a book) was only marginally related to knowledge of eyewitness factors. This result suggests that current educational materials may have limited effectiveness in teaching judges about eyewitness factors. Furthermore, 75% of the judges agreed that judges should receive more training on eyewitness testimony, and only 10% stated that judges receive adequate training on eyewitness testimony. Thus, most judges in the survey recognized a need for more judicial training on eyewitness testimony.

LIMITATIONS

Although there are several potential limitations to the study, we believe our results are still valid and informative. Some incorrect judgments about statements 1 through 14 may represent misinterpretations of the statements, rather than lack of knowledge. For example, some judges may have interpreted statement 11 as forgetting the event itself, as opposed to the details of the event. Another limitation may be that the primary respondents to the questionnaire were state trial judges. Only 7% of the judges who completed the survey were federal judges, and only 4% were appellate judges. We suspect that judges who voluntarily participated in the survey were more interested in and perhaps more knowledgeable about eyewitness testimony than judges in general.

Another limitation is that we asked judges about only a small subset of factors affecting identification accuracy, and so their knowledge scores may not represent their true knowledge about eyewitness testimony. However, we asked mainly about issues that have strong empirical support and that frequently arise in many criminal trials involving eyewitness testimony.[51] We avoided issues where there is less empirical support and consensus among experts, such as the effects of stress on memory, and more esoteric issues, such as the nature of repressed memories.

CONCLUSIONS

Increasing judges' knowledge of eyewitness testimony may be an important step in reducing wrongful convictions. More knowledgeable judges were more aware of the dangers of convicting defendants solely on the basis of eyewitness testimony; more willing to permit legal safeguards, including expert testimony; and more aware that jurors have limited knowledge of eyewitness factors. Increasing judges' knowledge of eyewitness testimony is also important because expert testimony is not a panacea for erroneous eyewitness testimony. Expert testimony is effective in only some circumstances.[52] It is also expensive and time-consuming, and there are a limited number of experts.[53] Accordingly, the long-term solution to erroneous eyewitness identifications may lie in educating judges and the other participants in the criminal justice system (e.g., police, lawyers, and jurors) about eyewitness factors and procedures to minimize eyewitness error, so that expert testimony would be less necessary in criminal cases. It may also be possible for judges who are knowledgeable about eyewitness testimony in some criminal cases to draft jury instructions and conduct trials in such a manner that expert testimony would not be needed.

The present study suggests that current judicial educational materials on eyewitness materials have limited effectiveness. This may occur because judges' exposure to eyewitness materials may be too brief, infrequent, and superficial to be of benefit. Fisher discusses very similar problems in training police officers to use more effective interviewing techniques with eyewitnesses.[54]

Perhaps another reason for the limited effectiveness of judicial education is that the primary focus of the legal system is to detect witnesses who are lying and not witnesses who make erroneous identifications. Thus, the legal system requires witnesses to take an oath to tell the truth and makes perjury a crime. On the other hand, witnesses are not required to swear that they will use reasonable care when making an identifica-

50. *See* United States v. Hall, 165 F.3d 1095, 1104-05 (7th Cir. 1999).
51. *See* Kassin, *supra* note 2.
52. *See* Cutler, *supra* note 44; CUTLER & PENROD, *supra* note 23.
53. Wells, *supra* note 29.
54. *See generally*, Ronald P. Fisher, *Interviewing Victims and Witnesses of Crime*, 1 PSYCHOL. PUB. POL'Y & L. 732-64 (1995).

tion, and there is no sanction for an erroneous identification even if it is made recklessly. In sum, until judges realize that erroneous eyewitness identifications pose a grave threat to the validity of criminal verdicts, judicial education programs on eyewitness testimony are likely to continue to have limited effectiveness. Indeed, an analysis of the first 62 cases involving post-conviction DNA exoneration found that mistaken identification occurred in 52 cases, whereas false witness testimony occurred in just 15 cases.[55]

Although it is unrealistic to expect judges to become eyewitness experts, they need at least to understand the basic principles of eyewitness testimony if they are to reduce the number of erroneous eyewitness identifications. We make a few suggestions about what judges need to know about eyewitness testimony, and recommend that Brigham,[56] Technical Working Group for Eyewitness Evidence,[57] and Wells[58] be consulted for a more detailed discussion.

1. Although human memory can be reasonably accurate, it does not operate like a passive security camera. Memory of a crime is not preserved like a videotape with near-perfect fidelity, and it cannot simply be rewound and replayed to extract additional, accurate information. Some information may never be recorded, and forgetting of details can occur rapidly (statements 1, 2, 8, and 11). Moreover, recall of a crime is a partially reconstructive process, with witnesses filling in the "blanks" of what they perceived by adding information based on both their expectancies and information obtained after the crime (see statements 3 and 5). As Wells states: "The important point is that witnesses will extract and incorporate new information after the witnessed event and then testify about that information as though they actually witnessed it."[59] Thus, many factors can affect how accurately a witness remembers a crime, whom the witness identifies as the perpetrator of the crime, and the witness's level of confidence at trial. Accordingly, the finder of fact should always carefully analyze both the witnessing conditions and the investigative procedures that may have affected the witness's testimony, rather than assuming that a witness's testimony is accurate simply because the witness is testifying in good faith and with a high degree of confidence (statements 4, 6, 7, 9, and 10).
2. Eyewitness error is the primary cause of wrongful convictions not because it is inherently unreliable, but rather because the criminal justice system has not yet implemented many procedural safeguards that could significantly reduce the number of erroneous eyewitness identifications.[60] For example, a few procedural changes in how lineups are conducted, such as the use of administrator-blind lineups and sequential rather than simultaneous lineups (see statements 4 and 10), could greatly reduce the number of erroneous eyewitness identifications without affecting the number of accurate identifications.[61] Judges should require that police and prosecutors implement such procedures in criminal cases and realize that the failure to use them significantly increases the risk of erroneous eyewitness identifications. In addition, they should consider suppressing evidence obtained from biased procedures.
3. Knowledge of eyewitness testimony is not just a matter of common sense. Therefore, judges need to be more cautious in excluding the testimony of eyewitness experts because of their belief that jurors already know how an eyewitness factor or procedure affects identification accuracy. Moreover, extensive legal and judicial experience is not sufficient to ensure that participants in the criminal justice system know how eyewitness factors and procedures affect identification accuracy. Accordingly, not only jurors but also the other participants in the criminal justice system have limited knowledge of eyewitness factors and procedures. This finding means that jurors, law officers, and attorneys, as well as judges, need to be better educated about eyewitness factors and the impact of investigative procedures on eyewitness identifications.
4. The only legal safeguard that has been empirically shown to be effective in educating jurors about eyewitness testimony is expert testimony. Other legal safeguards, such as voir dire questions, cross-examination, etc., may be useful adjuncts to expert testimony. Empirical research indicates that jurors cannot distinguish accurate from inaccurate eyewitnesses. Although eyewitness experts cannot tell jurors if an eyewitness has made an accurate identification, they can educate jurors about eyewitness factors and procedures. With this information, jurors can better evaluate the likelihood that an eyewitness has made an accurate identification of the perpetrator of a crime.
5. A greater dialogue between judges and eyewitness researchers about eyewitness testimony would be very useful in reducing eyewitness error because both groups could benefit from the others' experiences and expertise. A collaboration between judges and eyewitness experts is also important because, as Wells points out, the "scientific study of eyewitness memory is a continuing process."[62] Accordingly, it is important that judges stay abreast of the

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55. SCHECK, *supra* note 11.
56. Brigham, *supra* note 2.
57. TECHNICAL WORKING GROUP FOR EYEWITNESS EVIDENCE, EYEWITNESS EVIDENCE: A GUIDE FOR LAW ENFORCEMENT (1999).
58. Wells, *supra* note 12.
59. *Id.* at 583.
60. *See generally id.*
61. *See* Dep't Justice's *Recommendations for the Collection and Preservation of Eyewitness Evidence*, TECHNICAL WORKING GROUP FOR EYEWITNESS EVIDENCE, *supra* note 57.
62. Wells, *supra* note 12, at 590.

latest scientific research on eyewitness testimony and that researchers receive feedback from judges on how best to implement their findings into the criminal justice system. Moreover, because scientific knowledge is constantly evolving as a result of new research and new methods, our knowledge of how eyewitness factors and procedures affect eyewitness accuracy will never be complete. There will always be some experts who disagree with the majority of experts on how eyewitness factors and procedures affect accuracy.[63] Incomplete knowledge, controversies, and disagreements are inherent in the nature of scientific research. Consequently, if judges exclude the testimony of eyewitness experts merely because scientific knowledge on a topic is incomplete or because there is some disagreement among experts, then judges will be excluding eyewitness experts because of a misconception about the nature of scientific research. They will also be depriving fact finders of an essential tool for minimizing eyewitness error.

Judges are the guardians of the judicial system, and with increased knowledge about eyewitness testimony, they may be able to meaningfully address the problem of wrongful convictions. Reducing wrongful convictions is essential because the continual discovery of wrongful convictions undermines the credibility of the legal system. Reducing wrongful convictions is also vital because they cause incalculable suffering both to the innocent persons who are wrongfully convicted and to the victims of crimes that are committed because the real perpetrator of a crime has not been brought to justice.

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63. Howard Egeth, *Expert Psychological Testimony about Eyewitnesses: An Update*, *in* PSYCHOLOGY, SCIENCE, AND HUMAN AFFAIRS: ESSAYS IN HONOR OF WILLIAM BEVAN 151-66 (Frank Kessel ed., 1995); Rogers Elliott, *Expert Testimony about Eyewitness Identification: A Critique,* 17 LAW & HUM. BEHAV. 423-37 (1993).