The Psychology of Eyewitness Testimony: A Comparison of Experts and Prospective Jurors

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To compare people's beliefs about eyewitness testimony with expert opinion, 79 college students and community adults filled out a questionnaire in which they reported whether they agreed or disagreed with 21 statements previously used in a survey of eyewitness experts (Kassin, Ellsworth, & Smith, 1989). The results indicated that there was a significant inter-item correlation of agreement rates but that subjects differed from the experts on 15 of these items. For courts seeking to determine the extent to which juries need assistance in their evaluations of eyewitness evidence, these findings offer a tentative list of topics worthy of either expert testimony or cautionary instructions from the judge.

Over the past decade, there has been a raging controversy within the courts and among psychologists concerning the use of experts on eyewitness testimony (e.g., Loftus, 1983; McCloskey & Egeth, 1983; Wells, 1986). Based on the Frye test, enunciated by the U.S. Supreme Court in 1923, expert testimony is admissible only if the subject matter has general acceptance within the scientific community. The courts have employed other criteria as well. For example, the expert must be qualified, the testimony must concern a subject that is not a matter of common knowledge, and the probative value of the testimony must outweigh its possible prejudicial impact on the jury (*United States v. Amaral*, 1973). Still, the Frye test remains critical. Is there a general acceptance of eyewitness research findings? In light of recent debates, Kassin et al. (1989) surveyed 63 experts for their opinions on a list of eyewitness phenomena and found high levels of consensus that certain effects are reliable enough to present in court. Leading the list, for example, 96.8 percent of the experts agreed with the proposition that "an eyewitness's testimony about an event can be affected by how the questions put to that witness are worded."

While finding that experts judged many eyewitness findings to be quite reliable, Kassin et al. (1989) argued that general acceptance should not stand as the sole criterion for admitting expert testimony. Using Bayesian logic, in which the impact of new information is measured against existing beliefs, it was suggested that the courts also consider prior juror beliefs in order to estimate the extent to which expert testimony will assist the trier of fact by

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providing "new" information. Thus, for phenomena already known to be true or false by the average person, expert testimony—even on issues that pass the so-called Frye test—would be unnecessary.

The present research was designed to assess lay beliefs about eyewitness testimony and to compare these beliefs with prevailing expert opinion. Research using questionnaires and mock trials has shown that people are not familiar with many of the factors known to influence eyewitness testimony (Brigham & Bothwell, 1983; Cutler, Penrod, & Stuve, 1988; Deffenbacher & Loftus, 1982; Yarmey & Jones, 1983; for a review, see Wells, 1984). In order to obtain data directly comparable with those provided by Kassin et al.'s (1989) experts, however, we had the subjects indicate whether or not they agreed with exactly the same list of items, worded in exactly the same manner. Two lay samples were included in this survey: college students and older adults from the local community.

Method

Seventy-nine subjects (36 males and 43 females) participated in the study. Thirty-nine subjects were college students recruited on campus, and 40 were adults recruited in a local mall and paid $2 for their time. The subjects ranged in age from 18 to over 60 and in education level from tenth grade through graduate or professional school. Thirty-four subjects had previously been called for jury duty, and nine had actually served on at least one occasion.

All subjects were approached individually and asked to fill out a questionnaire. After answering demographic questions (sex, age, education, and jury experience), the subjects were asked to read the list of 21 statements presented in Table 1 and to indicate for each one whether they believed it to be generally true or false. An "I don't know" option was also included to inhibit the rate of guessing. The entire questionnaire took approximately 10 minutes to complete. Again, the target items were identical, word-for-word, to those employed in the experts study. This approach was taken in order to statistically compare the two sets of results. The main drawback was that certain statements may have been worded in ways that are somewhat vague or complicated for the layperson.

Results and Discussion

Table 2 presents the percentage of respondents who agreed with each statement ("disagree" and "I don't know" responses were combined). Clearly, it can be seen that subjects discriminated among the 21 phenomena. Thus, for example, most thought that eyewitness reports were influenced

Table 1

Eyewitness Topics and the Statements Used to Describe Them

Topics	Statements
1. Stress	Very high levels of stress impair the accuracy of eyewitness testimony
2. Weapon focus	The presence of a weapon impairs an eyewitness's ability to accurately identify the perpetrator's face
3. Showups	The use of a one-person showup instead of a full lineup increases the risk of misidentification
4. Lineup fairness	The more the members of a lineup resemble the suspect, the higher the likelihood that identification of the suspect is accurate
5. Lineup instructions	Police instructions can affect an eyewitness's wilingness to make an identification and/or the likelihood that he or she will identify a particular person
6. Exposure time	The less time an eyewitness has to observe an event, the less well he or she will remember it
7. Forgetting curve	The rate of memory loss for an event is greatest right after the event and then levels off over time
8. Accuracy-Confidence	An eyewitness's confidence is not a good predictor of his or her identification accuracy
9. Cross-racial/White	White eyewitnesses are better at identifying other white people than they are at identifying black people
10. Cross-racial/Black	Black eyewitnesses are better at identifying other black people than they are at identifying white people
11. Postevent information	Eyewitness testimony about an event often reflects not only what they actually saw but information they obtained later on

continued

Table 1 *Continued*

Topics	Statements
12. Color perception	Judgments of color made under monochromatic light (e.g., an orange streetlight) are highly unreliable
13. Wording of questions	An eyewitness's testimony about an event can be affected by how the questions put to that witness are worded
14. Unconscious transference	Eyewitnesses sometimes identify as a culprit someone they have seen in another situation or context
15. Trained observers	Police officers and other trained observers are no more accurate as eyewitnesses than the average person
16. Hypnotic retrieval	Hypnosis does *not* facilitate the retrieval of an eyewitness's memory
17. Hypnotic suggestibility	Hypnosis increases suggestibility to leading and misleading questions
18. Time estimation	Eyewitnesses tend to overestimate the duration of events
19. Attitudes and expectations	An eyewitness's perception and memory of an event may be affected by his or her attitudes and expectations
20. Sex differences	Women are better than men at recognizing faces
21. Event violence	Eyewitnesses have more difficulty remembering violent than nonviolent events

by the wording of a question (89.9%), attitudes and expectations (88.6%), and high levels of stress (82.3%). Yet relatively few believed that eyewitness reports were influenced by exposure time (36.7%), the violent nature of the event (27.8%), or the sex of a witness (24.1%). The results were highly similar in the student and community samples (these groups differed significantly on only four items, and the correlation of their agreement rates across items was $r = .792$, $p < .001$, $N = 79$). Consequently, these data were combined for analysis. This latter finding was consistent with other research showing that students and nonstudent adults do not significantly differ in their sensitivity to factors that affect eyewitness testimony (Cutler, Penrod, & Dexter, 1990).

Table 2

Comparison of the Agreement Rates of Subjects and Experts

Topics	% Subjects ($N = 79$)	% Experts ($N = 63$)	χ^2 ($df = 1$) and significance
1. Stress	82.3	70.5	3.04 (.10)
2. Weapon focus	60.0	56.5	.01 (n.s.)
3. Showups	63.3	83.1	6.42 (.01)
4. Lineup fairness	39.2	77.2	10.46 (.001)
5. Lineup instructions	68.4	95.1	15.23 (.001)
6. Exposure time	36.7	84.7	31.57 (.001)
7. Forgetting curve	40.5	82.5	23.55 (.001)
8. Accuracy-Confidence	49.4	87.1	21.10 (.001)
9. Cross-racial/White	58.2	79.4	6.67 (.01)
10. Cross-racial/Black	21.5	48.3	10.46 (.01)
11. Postevent information	74.7	87.1	3.06 (.10)
12. Color perception	45.6	65.7	4.70 (.05)
13. Wording of questions	89.9	96.8	1.96 (n.s.)
14. Unconscious transference	64.6	84.5	1.99 (n.s.)
15. Trained observers	39.2	58.7	5.03 (.05)
16. Hypnotic retrieval	17.7	51.9	18.59 (.001)
17. Hypnotic suggestibility	45.6	68.5	6.91 (.01)
18. Time estimation	62.0	74.5	2.23 (n.s.)
19. Attitudes and expectations	88.6	86.9	.21 (n.s.)
20. Sex differences	24.1	11.1	4.07 (.05)
21. Event violence	27.8	36.0	1.11 (n.s.)

Our main objective was to assess the correspondence of beliefs between laypersons and experts. To achieve this, we compared the proportion of our 79 subjects who agreed with each statement with Kassin et al.'s (1989) 63 experts who did the same and submitted the data to chi-square tests of significance. As shown in Table 2, there were 13 items in which our subjects' responses differed significantly from expert opinion (separately calculated, both student and community samples differed from experts on 13 of 21 items).

Specifically, fewer subjects than experts knew about the fairness of a lineup, effects of lineup instructions, show-ups, exposure time, the forgetting curve, cross-race biases, hypnotic suggestibility, and color perception under monochromatic light. Conversely, more subjects than experts believed that eyewitness confidence predicts accuracy, that women are better than men at recognizing faces, and that hypnosis facilitates memory retrieval. Although not significant, subjects also tended to overestimate the effects of stress and underestimate the biasing effects of misleading postevent information (both $ps < .10$). The subjects were in agreement with the experts on the effects (or lack thereof) of attitudes and expectations, wording of questions, unconscious transference, weapon focus, crime violence, and the tendency to overestimate the duration of events. Interestingly, there was a significant high correlation between subjects and experts in their agreement rates across items ($r = .67, p < .001, N = 79$). This last result suggests that, although the subjects differed from the experts on several specific topics, overall, they exhibited an impressive level of agreement on the *relative* merits of the various phenomena.

Following Bayesian logic, there are four possible outcomes in the relationship between expert opinion and common knowledge. An eyewitness effect may be (a) accepted more by experts than by jurors, (b) rejected by experts but assumed to be true by jurors, (c) accepted by both experts and jurors equally, or (d) rejected by both experts and jurors equally. Viewed in this manner, we would argue that phenomena falling in the first two categories would be ripe for expert testimony on the ground that it would assist the trier of fact. Indeed, there was significant disagreement between our subjects and the experts on 15 of 21 topics. In nine cases, fewer of our subjects than experts identified an effect as reliable (e.g., exposure time). In four cases, more subjects than experts assumed an effect to be reliable (e.g., the accuracy-confidence correlation). At the same time, it is important to note that there are certain topics on which jurors may already be adequately informed—and thus, not in need of expert advice. For example, subjects agreed with the experts that eyewitness testimonies are affected by the wording of questions and that violent events are not necessarily more difficult to recall than are nonviolent events.[2]

[2]We have taken a conservative approach to Table 2, arguing that people lack the requisite knowledge only when there is a significant difference between their responses and those of the experts. It could be argued, however, that when a substantial majority of experts (e.g., 75%) accept a proposition as valid, then all jurors should as well. Conversely, when a substantial number of experts do not accept a proposition as valid, then no jurors should either. Using this criterion, the proportion of subjects who accept each proposition should be compared to 0 or 100, not to the percentage of experts. This approach would lead us to conclude that jurors need expert advice on 19, rather than 13, phenomena. It would also lead us to conclude, however, that many of Kassin et al.'s (1989) experts are in need of expert assistance as well.

Coupled with Kassin et al.'s (1989) survey, the present study has important practical implications. To begin with, our findings contradict the charge made by McCloskey and Egeth (1983) that it is difficult to find eyewitness research that is both reliable and nonintuitive. Even more important, this study offers at least a tentative list of eyewitness topics worthy of expert testimony or, as proposed by Monahan and Walker (1988), scientifically-informed cautionary instructions from the judge. To date, research indicates that expert testimony may lead jurors to become more critical of eyewitness evidence (Fox & Walters, 1986; Hosch, Beck, & McIntyre, 1980; Wells, Lindsay, & Tousignant, 1980) and more aware of the factors that influence its accuracy (Cutler, Penrod, & Dexter, 1989). Although studies suggest that the currently available cautionary instructions are not similarly effective (Cutler et al., 1988; Hoffheimer, 1989) and need to be written in more accessible language (Greene, 1988), it is premature to conclude that such instruction is not a plausible alternative medium for educating the jury.

Practical implications aside, it is important to keep in mind that our survey—like the original study of experts on which it was based—is limited in three ways. First, we did not test all of the factors uncovered by eyewitness researchers (e.g., prior exposure to mugshots or the effects of alcohol and other drugs). Thus, we offer only a partial list of phenomena worthy of presentation in court. Second, these findings may be somewhat limited by the passage of time. A prime example of this problem is that only 60 percent of the subjects agreed with a description of the weapon focus effect, a number that was nearly identical to that of the experts. Yet after the experts were surveyed, four published studies reported reliable evidence for this phenomenon (Cutler, Penrod, & Martens, 1987; Loftus, Loftus, & Messo, 1987; Maass & Kohnken, 1989; Tooley, Brigham, Maass, & Bothwell, 1987). Thus, today's experts would, in all likelihood, find the weapon focus effect far more reliable than did our subjects. Third, future research should assess the common knowledge of juries as they deliberate within the context of real cases that contain eyewitness evidence. Once we have a clearer picture of what jurors know compared with the experts and, more importantly, how they apply that knowledge—a performance measure that cannot be taken for granted, and one that may be improved by expert testimony (Cutler et al., 1989)—judges will be in a better position to decide the issues on which some form of assistance is necessary.

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