

## A NATIONAL SURVEY OF US POLICE ON PREPARATION AND CONDUCT OF IDENTIFICATION LINEUPS

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A great deal of research has been aimed at identifying the factors that produce errors in eyewitness identification. However, most of this work has been conducted in laboratory environments using undergraduates and naive lay persons as research participants. Little information is available on what police officers do in the course of their identification activities. The present research investigated the procedures that police officers report employing when constructing and administering eyewitness identification lineups. We developed a survey that addresses a number of these issues, including experience, sources of lineup foils, lineup formation and display, lineup fairness evaluation, presence of suspect's attorney, witness instructions, historical records, and legal challenges. Surveys were sent to 500 US police jurisdictions; 220 were returned. Several survey items showed results consistent with previous laboratory research, however police officers reported using some procedures that are different from those established as most effective in the research literature. This paper summarizes the results of our survey and discusses the implications for future research and forensic procedures.

### INTRODUCTION

Criminal investigations and court proceedings give considerable weight to eyewitness identification evidence, and it may be the only evidence available. During the last two decades, a great deal of research has been directed at determining the factors that can cause identification errors. One line of analysis focuses on factors inherent in the event, including the influence of viewing conditions, intervening events, facial attributes, and witness characteristics: estimator variables (Wells, 1978; for reviews see Kebbell and Wagstaff, 1999 and Laughery and Wogalter, 1989). A second line of analysis has focused on recommendations arising from the psychological research literature on the procedural aspects of eyewitness identification. This line of research focuses on factors that are under the control of the criminal justice system: system variables (Wells, 1978). Wells *et al.* (1998) recommended four rules for law enforcement to follow when constructing and administering lineups. More recently, the United States Department of Justice convened a working group composed of prosecutors, defense attorneys, police and psychological scientists to consider the issues in the conduct of eyewitness identifications. The resulting report was published in October of 1999 (Technical Working Group for Eyewitness Evidence, 1999). The report of the psychologists participation in this process appeared in the following year (Wells *et al.*, 2000).

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While these important developments have been underway little attention has been directed at the persons whose work involves real crimes, real witnesses, and real suspects, namely, police officers. These individuals, and the methods they use in criminal investigations, could dramatically affect the lives of the people involved in the investigation. By now it is clear that mistaken eyewitness identification based on inadequate procedures are largely responsible for some wrongful convictions (Scheck *et al.*, 2001). Therefore, it is important to know what procedures police investigators follow in eyewitness identification, and how these relate to laboratory research findings. It is also important to know what procedures law enforcement investigators currently follow as we frame new research, form recommendations for procedural policy, and develop programs for the training of law enforcement personnel.

Construction of lineups and photospreads are among the procedures that US police employ in their investigations. Lineups contain several persons known to be innocent (foils) plus the suspected offender. One purpose of including foils is to allow the witness to observe the accused under conditions that allow accurate identification of an offender while at the same time minimize the risk of falsely identifying an innocent suspect. Protection of the innocent suspect is usually afforded by a *fair lineup* – a lineup that presents the suspect in a manner that is not conspicuous relative to the other members of the lineup. This recommendation is central in the model rules of Wells *et al.* (1998) and the recommendations of the Technical Working Group for Eyewitness Evidence (1999). Unfair or suggestive lineups provide cues at the time of the procedure that give information facilitating identification of the police suspect – a problem if the suspect is innocent of the crime. If suggestion were not considered a problem then no foils would be thought necessary. Theoretically, lineups are fair because the probability of choosing an innocent suspect is distributed across the several faces (Malpass and Devine, 1983; Wagenaar and Veefkind, 1992; Yarmey *et al.*, 1996; Lindsay *et al.*, 1997).

Wall (1965) ascribes the influence of suggestion as accounting for more miscarriages of justice than any other factor involved in eyewitness identification cases. For instance, a number of persons have been convicted of crimes based on faulty eyewitness identifications, only to later be exonerated in the light of DNA evidence (Connors *et al.*, 1996; Wells *et al.*, 1998). More recently there has been an increased interest in the use of lineup presentation techniques that depart from the stereotyped six-person photospread: sequential lineups. This form of lineup administration has been adopted by the State of New Jersey (Farmer, 2001). However it was not known to what extent sequential lineups were already being used by law enforcement on a national basis.

The purpose of the present research is twofold: to describe the procedures experienced police officers use to construct eyewitness identification lineups and photospreads, and to identify the areas in which police have adopted newly emerging lineup and photospread construction techniques. This study describes the outcome of a national survey of US police officers concerning the procedures that they use in the course of constructing lineups and testing witnesses.

## METHOD

### Participants

Surveys were sent by US mail to police departments of 500 US jurisdictions using an address database from the National Police Chiefs and Sheriffs Information Bureau (1991).

Distribution of the survey was based on population size of municipal districts according to the census lists of a 1990 Almanac: 100 were mailed to police departments of the 100 most populated US cities; 175 were mailed to the police departments in a random sample of US cities and towns with populations from rank 101 to 1000; 100 were mailed to the police departments of the 100 most populated US counties; 75 were distributed to police departments in a random sample of all US counties beyond rank 100; and 50 were distributed to all US state police departments.

### **Survey Instrument and Procedure**

A 67-item survey was developed and directed to police officers who carry out lineup identification procedures. The survey contained questions regarding the methods used to construct lineups and present them to eyewitnesses. Items were included to assess the officers' experience using various lineup-related procedures. Sixty of the items required a rating or a choice among provided alternatives, while the remaining seven items were worded as open-ended questions to avoid suggesting or influencing respondents' answers.

Surveys were directed to the highest ranking police officer (e.g. chief of police) of each police department. A cover letter asked the recipient to forward the survey to the officer most experienced in constructing lineups within the jurisdiction. This officer was requested to complete the survey and to return it to the first author in an accompanying envelope.

### **RESULTS**

Of the 500 surveys distributed, a total of 220 surveys (44%) were returned, with the smaller cities and counties returning at the lowest rate. Specifically, the returned surveys included 76% of the 100 most populated US cities, 25% of the 175 random sampled US cities and towns, 50% of the 100 most populated US counties, 26% of the 75 random sampled US counties, and 62% of the 50 US state police departments. To analyze responses to open-ended questions, response categories were derived and scored by two raters; reliability was checked by having both raters independently code a 25% subsample of responses (96% inter-rater agreement). First, we outline the frequency/proportion data from all survey questions analyzed as a function of jurisdiction using a series of analyses of variance and chi-square tests. For most questions the responses did not differ as a function of jurisdictional type, therefore only those items that showed statistically significant differences among jurisdictions at  $p < 0.01$  are described according to police jurisdiction. Second, we present the results of a series of chi-square and logistic regression analyses examining the relations between variables.

#### **Survey data**

##### *Experience*

Police officers were asked about their experience in preparing and conducting lineups and offered a list of possible responses (non-mutually exclusive). On average, respondents had 12 years' experience as police officers, had constructed 329 lineups (89 (27%) live, 240 (73%) photographic) each, and in the last 12 months had constructed 48 lineups (nine live, 39 photographic). While most of the lineups reported by the officers are photographic, the

police from the large-population cities reported constructing more live lineups (in absolute number and proportionately) in the last 12 months than did the police officers from the other jurisdictions ( $F(4,217) = 3.65, p < 0.01$ ): large cities reported an average of 21 live and 66 photographic lineups; random cities reported an average of one live and nine photographic lineups; large counties reported an average of eight live and 55 photographic lineups; random counties reported an average of one live and nine photographic lineups; and state police reported an average of 0 live and 11 photographic lineups. Officers reported having learned to construct lineups from the following non-mutually exclusive sources: 74% learned from another officer in their station or precinct; 54% from court rulings and case law; 42% from course work or professional instruction; 31% from general written recommendations or guidelines; 18% from specific rules and regulations; and 15% from other sources.

#### *Sources of Lineup Foils*

Averaged across jurisdictions, respondents indicated that foils for *live* lineups were found from the following non-mutually exclusive sources (open-ended question): jail (79%), other police officers (60%), public citizens (37%), and other police-station personnel (32%). Officers from the state, random city, and random county police departments more frequently reported using the public than the police officers from the large cities and counties ( $\chi^2(n = 144) = 14.46, p < 0.01$ ), while the state police were the least likely to report using jail as a source of non-suspects ( $\chi^2(n = 144) = 28.61, p < 0.001$ ). However, as indicated above, the use of live lineups by the state, random city and random county police was relatively infrequent. Asked from what sources officers obtain non-suspect pictures for *photographic lineups*, the overall responses were bureau files (95%), driver licenses (24%), yearbooks (12%) and other sources (44%). Suspect photographs were taken from similar origins. Overall, officers reported that they look through an average of 106 faces from which they select the non-suspects for photographic lineups.

#### *Lineup Formation and Display*

Officers were asked a series of questions concerning the construction and presentation phases of lineups. Overall, the mean size reported for photographic lineups is slightly larger (6.5) than that of live lineups (6.1). A comparison using only the data of the 139 police officers who reported constructing both kinds of lineups showed the lineup size difference to be statistically significant ( $t(138) = 2.73, p < 0.01$ ). Most officers report that they usually place the suspect in the middle of both live (87%) and photographic lineups (81%) as opposed to the beginning (left) and end (right) positions, but approximately one-half (47%) of those who construct live lineups said that they allow suspects to choose their location. Eighty per cent said that they use a two-row picture layout in photographic lineups.

Forty per cent of respondents reported using sequential lineups – a procedure in which photographs are presented one at a time rather than simultaneously. The average number of sequential lineups reported (in total experience) is 32.7, which is slightly less than 10% of all lineups they reported in an earlier question (i.e. 90% of all lineups involve simultaneous presentation). Only 16% per cent report using video lineups, with large city and large county officers reporting their use more frequently than officers from other jurisdictions ( $\chi^2(n = 219) = 14.47, p < 0.01$ ).

Asked about their selection criteria for lineup foils (open-ended), 83% of all respondents indicated that this is based on similarity to the suspect, while 9% reported basing this

decision on witness verbal descriptions of the suspect. The most frequent face/body characteristics mentioned (as affecting their foil selection decisions) were: hair (50%), race/ethnic group (37%), age (37%), height/weight/build (33%), facial hair (29%), skin complexion (27%), photographic quality (19%), general facial features (18%), eyes (9%), eye glasses (9%), face shape (6%), and clothing (6%). Items mentioned less than one per cent (or not at all) included: forehead, eyebrows, nose, cheeks, lips, chin, neck, pose, and eye-gaze. Officers were also asked to rate 22 face characteristics according to the extent of their consideration during lineup construction. The scale ranged from 0 ('I do not use this characteristic at all in selecting faces') to 8 ('I select faces based entirely on this characteristic') with the middle anchor (4) labeled as a moderate degree on this dimension. Items above the median overall average rating were: race/ethnic group (7.6), facial hair (7.0), hair color (6.5), photographic quality (6.4), eye glasses (6.4), orientation/pose (6.0), hair length (5.9), hair type/style (5.8), skin complexion (5.7), and overall shape of face (5.1). Those below the median included: nose (4.4), lips (4.2), chin (4.0), eyes (4.0), cheeks (3.8), forehead (3.7), hair part (3.7), eyebrows (3.4), neck (3.4), and clothing (2.8). Large city and county police gave greater weight to race/ethnic group ( $F(4,213) = 3.78, p < 0.01$ ), but gave less weight to the features of nose ( $F(4,213) = 3.53, p < 0.01$ ) and cheeks ( $F(4,213) = 3.57, p < 0.01$ ) than the other jurisdictions.

When asked what is done when a suspect has distinctive facial markings (e.g. scars or birthmarks) and provided a list of (non-mutually exclusive) options, 77% of all officers reported that they try to match the marks to the other lineup members, 23% said that they try to add similar marks to the other lineup members, and 18% said that they try to cover up the marks. Thirty per cent reported that they do not do anything with regard to facial markings.

#### *Lineup Fairness Evaluation and Presence of Suspect's Attorney*

Police officers were asked how they determine whether a lineup they have constructed is fair, and were provided a list of (non-mutually exclusive) options. Across jurisdictions, the vast majority (94%) reported using their own judgment, 77% said that they get an opinion from a fellow officer, 51% said they ask a prosecuting attorney, and 15% said they ask a defense attorney. Twenty-two per cent said that they find out whether the lineups are fair during preliminary proceedings such as hearings or depositions and 23% find out at trial. Random city police reported more frequently finding out at trial that their lineup is fair than all other jurisdictions ( $\chi^2(n = 213) = 15.04, p = 0.005$ ).

When asked how often the suspect's (defense) attorney is present during the procedures associated with live and photographic lineups and offered a list of possible responses (non-mutually exclusive), 36% of all respondents said the defense attorney is present when live lineups are formed, with officers from large cities, large counties, and state jurisdictions endorsing this more frequently than other jurisdictions ( $\chi^2(n = 206) = 18.25, p = 0.001$ ). Sixty-one per cent reported that the suspect's attorney is present when witnesses examine a live lineup, also endorsed more often by large city, large county, and state police ( $\chi^2(n = 206) = 20.53, p < 0.001$ ). Only 4% and 8% reported that the defense attorney is present when photographic lineups are formed and when the witnesses examine them, respectively. Across all officers, 49% said that the suspect's attorney is usually not present at any part of the lineup formation or witness identification procedures, with this item endorsed less often by officers in the large city and large county jurisdictions ( $\chi^2(n = 209) = 13.42, p < 0.01$ ).

### *Witness Instructions*

Police officers were asked (open-ended) what instructions they give to witnesses before or during lineup presentation. Overall, 52% tell witnesses that they do not have to choose anyone, most often reported by large city and large county police ( $\chi^2(n=192) = 17.98, p = 0.001$ ). Twenty per cent warn the witness that some of the facial features may change over time; this was also endorsed more frequently by large city and county police than all other jurisdictions ( $\chi^2(n=192) = 14.07, p < 0.01$ ). Twenty-six per cent tell witnesses to select someone only if they are sure and 14% report admonishing that photographs may have quality problems. Two per cent report asking witnesses to pick the closest person to the offender if they do not initially choose someone as the culprit – a result principally attributable to the reports of a few state police officers. Ninety-five per cent of all officers reported that they give witnesses the option of not selecting any person from a lineup, while 86% said that they ask for a level of confidence from witnesses (regardless of whether or not witnesses made a lineup choice).

### *Historical Records*

Across jurisdictions, 98% of officers responded affirmatively to an item asking whether a record of the lineup test is kept on file. Asked what is kept in the file (open-ended), 67% said that the file includes a written report and 73% said that a photographic account of the lineup is kept with the record.

### *Legal Challenges*

Fifty-two per cent of all officers reported having had a lineup(s) challenged in court or in preliminary hearings. When asked about the details of these cases (open-ended), 25% reported that the challenge was based on similarity issues. Thirty-five per cent said that their lineups have survived defense challenges by being ruled fair.

### **Police Practices**

#### *Practices Associated with Formal Training*

Table 1 shows the results of a series of chi-square analyses examining whether various police practices (selection criteria for foils, lineup presentation method, what is done with distinctive markings, fairness evaluation, defense attorney's presence, witness instructions) vary as a function of receiving or not receiving formal training for lineup construction. Officers with formal training were defined as those who indicated that they learned to construct lineups via coursework or professional instruction. We evaluated a number of police practices including selection criteria for non-suspects and non-suspect distinctive markings, lineup presentation, lineup fairness evaluation, defense attorney's presence, and witness instructions. As indicated in Table 1, very few factors were significantly associated with formal training for lineup construction. Officers formally trained were significantly more likely to consult with a prosecuting attorney as a check on lineup fairness (64.1%) than those not formally trained (41.7%;  $\chi^2(n=219) = 10.71, p = 0.001$ ). Those with formal training were less likely to instruct witnesses during lineup presentation that some facial features may change over time (11.0%) than those not formally trained (26.6%;  $\chi^2(n=191) = 7.17, p = 0.007$ ). A significant effect was also found for the witness instruction to pick the person most resembling the offender if they do not initially identify someone as the culprit, however this item was endorsed by only three police officers.



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TABLE 1 Chi-square analyses for practices associated with formal training.

Practices	$\chi^2$	d.f.	p
Selection criteria for non-suspects			
Based on similarity to suspect	0.009	1,210	0.924
Based on verbal description of offender	0.429	1,210	0.513
Lineup method/presentation			
Use of sequential lineups	0.184	1,212	0.668
Use of videotaped lineups	0.698	1,218	0.407
What is done with distinctive marks			
Cover up marks	1.810	1,216	0.178
Match marks to other lineup members	0.940	1,217	0.332
Add similar marks to other lineup members	1.355	1,213	0.244
Ignore marks	3.617	1,212	0.057
Fairness evaluation			
Use own judgment	0.717	1,219	0.397
Get fellow officer's opinion	0.213	1,219	0.644
Get prosecuting attorney's opinion	10.712**	1,219	0.001
Get defense attorney's opinion	0.531	1,216	0.466
Find out at preliminary hearing	0.801	1,214	0.371
Find out at trial	0.008	1,212	0.928
Defense attorney's presence			
When live lineup is constructed	2.251	1,205	0.134
When witness examines live lineup	0.427	1,205	0.513
When photographic lineup is constructed	0.247	1,212	0.619
When witness examines photographic lineup	0.115	1,212	0.735
Suspect's attorney not present	3.697	1,208	0.055
Witness instructions			
Don't have to pick	0.366	1,191	0.545
Features may change	7.173**	1,191	0.007
May be a photographic quality problem	0.850	1,191	0.357
Pick only if sure	0.984	1,191	0.321
Pick closest if assailant is not present	4.051*	1,191	0.044
Option of not choosing	0.014	1,208	0.904

\* $p < 0.05$ ; \*\* $p < 0.01$ .*Practices Associated with Legal Challenges*

We also conducted a series of exploratory logistic regression analyses to examine what police practices (experience, training, selection criteria, lineup presentation, distinctive markings, fairness evaluation, defense attorney presence, and witness instructions) might predict challenges of lineups in court (see Table 2). While officers' experience (both years constructing lineups and total number of lineups constructed) was a significant predictor of legal challenges ( $B = 0.003$ ,  $p < 0.01$  and  $B = 0.055$ ,  $p < 0.01$ , respectively), both  $B$  and  $R^2$  were very small. Some training variables were negatively related to legal challenges: officers who reported not having learned to construct lineups via general or specific guidelines ( $B = -0.769$ ,  $p < 0.05$ ,  $B = -0.987$ ,  $p < 0.05$ ) or by court rulings and case law ( $B = -0.820$ ,  $p < 0.01$ ) were more likely to have their lineups challenged in court. Relying on fellow officers to determine whether a lineup was fair ( $B = 0.704$ ,  $p < 0.05$ ) and failing to instruct witnesses that the guilty party might not be in present in the lineup ( $B = -0.622$ ,  $p < 0.05$ ) were also significantly related to subsequent legal challenges. Finally, the absence of the suspect's

TABLE 2 Logistic regression analyses for practices predicting legal challenges

Practices	Legal challenges		
	Total n	B	R <sup>2</sup>
Experience			
Years constructing lineups	210	0.003**	0.027
Total number of lineups constructed	216	0.055**	0.016
Training			
Coursework/professional instruction	216	0.186	0.000
Another officer in precinct	216	0.163	0.000
General written guidelines	216	-0.769*	0.015
Specific written guidelines	216	-0.987*	0.015
Court rulings and case law	216	-0.820**	0.022
Selection criteria for non-suspects			
Based on similarity to suspect	209	0.363	0.000
Based on verbal description of offender	209	-0.512	0.000
Lineup method/presentation			
Use of sequential lineups	210	-0.278	0.000
Use of videotaped lineups	210	-0.057	0.000
What is done with distinctive markings			
Cover up marks	210	-0.488	0.000
Match marks to other lineup members	210	0.074	0.000
Add similar marks to other lineup members	210	-0.375	0.000
Ignore marks	210	-0.139	0.000
Fairness evaluation			
Use own judgment	210	-0.289	0.000
Get opinion from fellow officer	217	0.704*	0.008
Get opinion from a prosecuting attorney	210	0.019	0.000
Get opinion from a defense attorney	210	-0.134	0.000
Find out at preliminary hearings/deposition	210	0.072	0.000
Find out at trial	210	-0.159	0.000
Defense attorney present			
When live lineup is constructed	199	0.672	0.002
When photographic lineup is constructed	199	-1.153	0.000
When witness examines live lineup	206	-0.977***	0.032
When witness examines photographic lineup	213	0.384	0.000
Suspect's attorney usually not present	199	0.148	0.000
Witness instructions			
Don't have to pick	192	-0.622*	0.009
Features may change	192	-0.342	0.000
May be a photographic quality problem	192	0.721	0.000
Pick only if sure	192	0.221	0.000
Pick closest if assailant is not present	192	-0.158	0.000

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

attorney during lineup examination by the witness was significantly associated with legal challenges ( $B = -0.977$ ,  $p < 0.001$ ).

As a follow-up, we explored whether the variables listed in Table 1 were also associated with legal challenges that were subsequently ruled fair. Results showed only one significant relation (not reflected in the table): officers who learned to construct lineups from another

officer in their station or precinct was positively related to this outcome ( $n = 190$ ,  $B = 1.27$ ,  $p < 0.01$ ,  $R^2 = 0.041$ ).

## DISCUSSION

Two cautions in interpretation are in order. First, the return rates varied from 25% to 76%, with the smaller cities and counties producing the smaller return rates. We can shed no light on the return rate differences, or on the important question of whether they produce a sampling bias. It could be possible, for example, that smaller police organizations are less specialized, and that identifying a particular person to respond to the questionnaire was less frequently done. It is also possible that in smaller jurisdictions portions of the eyewitness identification process (along with other investigative matters) are given to other organizations. But we do not know these things, and have no basis for an interpretation of sampling bias. Nonetheless, readers may want to exercise caution with respect to certain of the results, based on return rates. Second, we point out that as with all surveys these results do not reflect direct observation of police actions and decisions in the process of constructing and presenting live or photo lineups, and are limited entirely to what those responding to the survey have told us.

Survey respondents were highly experienced with regard to years on the job and the number of lineups constructed. Many of the findings in the survey are descriptive. Most of the findings do not require elaborate discussion. In this section, therefore, we focus our comments on selected results that relate to existing research.

Respondents reported using procedures in several areas that are consistent with recommendations derived from laboratory research. For example, officers reported paying greater attention to upper face features (in particular, cranial and facial hair) than to lower face features in selecting faces to be used as non-suspects. This finding is consistent with a large body of research on feature salience showing that people attend to and remember more upper features than lower features of faces (for a review, see Shepherd *et al.*, 1981).

In addition, research shows that the form and content of witness instructions can unduly influence research participants to make a choice from a lineup (e.g. Malpass and Devine, 1981, 1984; Paley and Geiselman, 1989). Giving witnesses the option of not choosing decreases the likelihood of false identifications. In accord with this, and when specifically asked, most officers report that they give witnesses this option. However, it was mentioned by only about 50% of the police officers in response to the general, open-ended question of what instructions they give to witnesses. Few police officers report that they tell witnesses that the facial features may change over time, or that photographic quality may be a problem. Research shows that relatively small changes in appearance from first viewing and subsequent testing can dramatically decrease recognition performance in laboratory-based experiments (e.g. Bruce, 1982; Laughery and Wogalter, 1989; Wogalter and Laughery, 1987; Wogalter *et al.*, 1992b).

Most lineups constructed by police are photographic as opposed to live. This finding is not entirely unexpected because it is much more convenient in terms of costs (effort, time, and probably money) to construct photographic lineups than it is to construct live lineups. Substantially greater costs are involved in finding and assembling an adequate group of live non-suspect foils compared with photographs. Furthermore, live lineups are much less easily controlled and can be biased by subtle behaviors exhibited by their members

(Kohnken *et al.*, 1995). However, photographic lineups often lack the image veracity inherent in the live version (e.g. Egan *et al.*, 1977; McAllister *et al.*, 2000; Shepherd *et al.*, 1982). Another method that could mitigate some of these problems is video lineups (Cutler and Fisher, 1990). With video, the fidelity of live lineups can be maintained and biasing behaviors can be edited out. Nevertheless, the current data indicate that relatively few police officials use video lineups. In recent years, high quality low-cost video has become readily available. It is likely that use of this technology for lineups will become commonplace in future years because it has important advantages over the live and static-photograph methods.

Over the past decade, there has been a growing body of research on sequential techniques of presenting lineups to witnesses. In sequential lineups, each individual member is shown one at a time as opposed to being shown as a simultaneous array. A recent meta-analysis of studies comparing simultaneous and sequential lineups indicates that sequential lineups lead to fewer correct identifications when the offender is actually present in the lineup, and fewer false identifications when the offender is not present (Stebay *et al.*, 2001). However, we did not find substantial reported use of the sequential technique by the police, and its use appears to be mainly restricted to the larger-population jurisdictions. The sequential technique's relatively slow incorporation by police may be a result of the costs involved in training officers with newly developed methodologies, the high likelihood that the officers do not review the academic literature, and an uncertainty of the courts' acceptance of the procedure.

Our results indicate that most of the decision making about lineup fairness is made by the officer constructing the lineup itself. At this point, we do not know how well calibrated police officers' fairness judgments are in comparison with other ways of assessing lineup fairness (Malpass and Devine, 1983; Lindsay and Malpass, 1999). After seeing their previously constructed lineups and photospreads judged as adequate in court, officers may develop a high degree of confidence about the quality of their lineups. Research by Brigham and Brandt (1992) and Brigham *et al.* (1990) indicates that police officers' judgments of lineup fairness relate to several fairness measures. However, without additional input, such as judgments from other persons, officers can not be certain about the fairness of a particular lineup that they have constructed. While many officers report that they obtain opinions about the fairness of their lineups from fellow officers and prosecuting attorneys, particularly those formally trained in lineup construction, these individuals are not necessarily impartial. Relying on fellow officers may not be a useful strategy either, as this was found to be associated with subsequent legal challenges. A more impartial set of evaluations is needed and would be found from opposing (e.g. defense attorneys) or neutral parties (e.g. mock witnesses).

The major problem to be prevented is those instances where a witness is shown a lineup which, at a later point, is determined to be unfair. Presentation of that unfair lineup could not only invalidate the accurate identification a witness made at that time (even if it were correct), but also adversely affect the witness's memory for the offender. As a result the witness may make a biased judgment in any subsequent lineup presentation, even if it is properly constructed and fair. Therefore, it is important to ensure that the first lineup that a witness sees is fair. If the initial display of a suspect's face is improperly presented any subsequent identification is likely to be adversely affected.

Specific police practices led to legal challenges of lineups for some officers: the absence of certain types of training, the absence of the suspect's attorney during lineup presentation to

the witness, failing to give unbiased instructions to the witness, and consulting with fellow officers as a check on the fairness of a lineup. However, it is important to note that the amount of variance explained in legal challenges by these predictors was very small.

The results showed other differences between police-reported procedures and the methods advocated in the research literature. One difference involves the decision criteria used in selecting foils for inclusion in lineups. Conventional wisdom has been that foil selection should be based on similarity to the suspect to avoid having the suspect being conspicuous or from unduly standing out in the lineup. The police officers' reports reflected this belief. Most of the respondents stated that they make their inclusion decisions based on suspect-to-foil similarity. However, research on lineup formation indicates that there are problems with this criterion. Research suggests that selection of foils based exclusively on the appearance of the suspect can distinguish the suspect from the foils as the suspect shares more features with the foils than any of the foils share with each other (Wogalter and Jensen, 1986; Laughery *et al.*, 1988; Marwitz and Wogalter, 1988; Wogalter *et al.*, 1991, 1992b). High degrees of foil-to-target similarity produce cues that can (unfairly) aid witnesses in determining who the suspect is, causing lineup bias.

Other difficulties regarding the similarity criterion have been articulated by Luus and Wells (1991). They suggest that selection of non-suspects for lineups should be based on witness's verbal descriptions of the offender rather than foil-to-suspect similarity. This latter suggestion has been questioned (e.g. Navon, 1990a,b, 1992; Wogalter *et al.*, 1992) because witness's verbal descriptions tend to be incomplete and general (e.g. Shepherd *et al.*, 1978; Ellis *et al.*, 1980; Laughery *et al.*, 1986; Pigott *et al.*, 1990), which could produce situations where the suspect is highly salient in the lineup even though the non-suspect members generally fit the verbal description. This criticism notwithstanding, Luus and Wells (1991) correctly point out the flaws in exclusive use of the similarity criterion. Apparently, neither minimal nor maximal levels of similarity produce fair lineups. Thus, both the similarity and the verbal description approaches have flaws, but use of them together in forming lineups might abate some of the disadvantage that each method has individually. Data are needed to assess the fairness of lineups produced using both criteria, and how much weight to give each in the process.

Apart from studies by Brigham and his associates (cited above) and the present study, very few studies have used police officers as research participants in eyewitness identification research. Very little is known about what professional criminal investigators actually do in lineup-related tasks. These individuals are obviously important to eyewitness identification because they regularly work with real crimes, witnesses, and suspects. Instead, most research on lineups has been laboratory-based experiments using undergraduates who are relatively naive with respect to these procedures. The lack of research on police-performed identification procedures points to a major gap in the empirical literature. Research on actual police procedures would decrease the distance from research to application.

The present research indicates that officers may not make use of certain procedures that are likely to be more effective than the methods they report. Further, most (58%) of the respondents said that they did not receive formal training in eyewitness identification techniques. Our findings also indicate that there is considerable variation across police jurisdictions in the way eyewitness identification is carried out. This is important to note in view of the fact that individuals convicted based on eyewitness reports have subsequently been found innocent based on DNA evidence (Scheck *et al.*, 2001). Clearly eyewitness identification procedures and the resulting evidence have been used improperly in some

instances, in some police agencies. This underscores the need for training of the appropriate personnel and for an effort to reconsider the nature of eyewitness identification evidence and the circumstances of its development in individual investigations.

Appropriate training and communication of applicable research findings could improve the effectiveness of existing lineup construction and presentation practices. Fortunately, training programs are under development arising from the Department of Justice's Technical Working Group for Eyewitness Evidence and their publication of 'Eyewitness Evidence: A Guide for Law Enforcement' (Technical Working Group for Eyewitness Evidence, 1999). Re-study of police practices following a suitable period during which newly available training may have effects would seem an appropriate future step.

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