Own-Race Bias in Lineup Construction

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The lineup identification of a suspect is often a critical stage in a criminal investigation. One factor which may affect the fairness of a lineup is bias on the part of the person constructing the lineup. The "own-race bias," the tendency of individuals to perceive more similarity in the appearance of other-race members than in their own, may affect lineup development. Black subjects and white subjects were asked to construct lineups using both black and white "suspects." On three of four measures, their behavior was very similar while making white lineups but different on black lineups. Relative to their performance on white lineups, white subjects became less selective on black lineups but black subjects became even more selective on black lineups. Both groups displayed own-race bias by being more selective about own-race photos than other-race photos. This lessening of selectivity may make lineups constructed by cross-race lineup constructors less fair than lineups constructed by own-race lineup constructors.

INTRODUCTION

The lineup is a critical stage in most criminal investigations that involve eyewitness identification. Whether or not the witness selects the suspect often determines if the suspect will be prosecuted or released. The criminal justice system has such faith in this procedure that an identification made from a lineup is considered an independent piece of evidence against a suspect (Wells, Leippe, & Ostrom, 1979). Since this procedure carries so much weight, it would seem crucial that lineups be constructed to be as fair as possible.

In theory, the ideal "fair" lineup consists of the suspect and five or more known-to-be-innocent individuals (foils) who are similar in appearance to the suspect or to the previous description of the criminal. If the foils are similar in appearance it makes the procedure less suggestive by making it less obvious which lineup member the police suspect. This also helps to eliminate the possibility that witnesses make their selection based on a commitment to their prior description of the criminal. Since the suspect is likely to fit this prior description, it is important that the foils do too, in order to make it a fair test of the witnesses'

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ability to identify the suspect. A fair lineup has been defined as one where persons unfamiliar with the crime who are given only the witnesses' description of the suspect will not be able to distinguish between the suspect and the foils at a greater than chance level (Doob & Kirschenbaum, 1973).

Lindsay and Wells (1980) have shown that fair lineups are beneficial to both the suspect and police. They conducted an experiment in which subjects were exposed to a mock crime and then one of four lineups. Each subject saw either a fair lineup containing the "criminal" (target), a target-absent fair lineup containing a person similar in appearance to the target, an unfair lineup containing the target and five dissimilar foils, or an unfair lineup containing the similar-to-the-target person and five dissimilar foils. As predicted, the unfair target-present lineup produced the highest number of accurate identifications while the unfair lineup with a person similar to the target produced a high number of false identifications. The fair target-present lineup produced a small decrease in the number of accurate identifications and a large decrease in the number of false identifications. Hence, there is a trade-off with fair lineups. They produce fewer overall identifications but a greater percentage of accurate ones. Lindsay and Wells concluded that since the police can never be sure they have the right person, they are better served by using fair lineup.

Another way of looking at lineups is in terms of their diagnosticity. Diagnosticity refers to the weight which a lineup identification should be given when determining the probability that a suspect is guilty (Wells & Lindsay, 1980). One advantage of fair lineups is they have greater diagnosticity than biased lineups. Fair lineups are highly diagnostic because an identification made from one is more likely to be accurate. Biased lineups are not very diagnostic because the witness's identification from such a lineup may have been the result of the lineup's suggestiveness rather than the witness's memory of the crime.

Studies indicate there are many ways in which a lineup can be inadvertently biased against a suspect. Doob and Kirschenbaum (1973) analyzed a photograph of a police lineup to determine whether its members were similar to each other on the one dimension that the witness could remember, the criminal's degree of attractiveness. In this case, the only thing that the witness could remember about the man who robbed her was that he was "rather good looking" (p. 292). They demonstrated that the lineup was biased against the suspect because he was much more attractive than any of the foils. This places into question the witness's identification of him.

In a similar vein, Buckhout reports two studies (Buckhout, 1974; Buckhout, Figueroa, & Hoff, 1975) in which making a suspect's photo more distinctive than the foils' photos biased the lineup against the suspect. In each case witnesses were exposed to a staged crime and then asked to make a lineup identification. Each subject chose from either a biased "distinctive" lineup or a fair lineup. In the distinctive lineup the suspect's photo was printed at an angle and he had a different expression on his face. In the fair lineup the suspect's photo was similar in angle and expression to the other photos. Subjects in both studies chose the suspect significantly more often when he was in the distinctive lineup than when he was in the fair lineup.

The focus of the present study is on the effect of *own-race bias* on lineup

construction. One-race bias refers to the tendency of members of one race to see members of other races as being more similar in appearance to each other than they actually are. Although the degree of own-race bias can vary from person to person and within the same person from one race to another, empirical evidence supports its existence (for example, see Barkowitz & Brigham, 1982; Brigham, 1985; Brigham & Barkowitz, 1978).

This tendency for members of one group to perceive greater similarity among members of another group is not restricted to appearance. Considerable research evidence has accumulated in recent years indicating that people have a general tendency to see members of outgroups as more homogeneous than members of their own group (e.g., Quattrone & Jones, 1980). For instance, Linville and Jones (1980) found that white subjects evaluating bogus law school applications had more complex schemata about other whites than about blacks. Own-race bias can be seen as an example of this general tendency for group members to have an illusion of outgroup homogeneity.

In discussing the possible influence of own-race bias on lineups, Lindsay and Wells (1980) postulated that this tendency makes cross-racial lineup identifications, where the race of the witness is different than the race of the suspect, much like identifications from fair lineups. These situations are alike, they suggested, because from the viewpoint of the witness, the lineup members are similar in appearance. As evidence for this hypothesis Lindsay and Wells (1980) cited an unpublished study carried out by Lindsay, Wells, and Rumpel (1980) in which cross-racial lineups produced higher diagnosticity than same-race lineups. Lindsay and Wells (1980) concluded that cross-racial and fair lineups are similar in diagnosticity.

In response to the Lindsay and Wells hypothesis, Brigham (1980) pointed out that other factors need to be considered before the full effect of race on lineup identification can be understood. Persons who construct lineups could also be affected by own-race bias. They too may have a tendency to perceive more similarity between members of other races. This could differentially influence their selectivity in choosing photos which are "reasonably similar in appearance" to the suspect to create a fair lineup. They may be less sensitive to individual differences in appearance for other-race photos, therefore creating a lineup in which the members differ more from each other than is the case for a same-race lineup. Hence, own-race bias may result in lineups produced by lineup constructors who are of a difference race than the suspect which are less fair (having less actual similarity among their members) than lineups produced by same-race lineup constructors.

This complex interaction between the race of the lineup constructor, the race of the lineup members, and the race of the witness could affect diagnosticity. For example, high diagnosticity would be found where the lineup constructor and the lineup members are of the same race but the witness is of a different race. Such a lineup would be fairly difficult for the witness. The foils would probably have high actual similarity to the target and added to this would be additional perceived similarity resulting from the witness' own-race bias. If the witness chooses the suspect then it is relatively more likely to be an accurate identification.

Low diagnosticity may be found in situations where the witness and the

suspect are of the same race and the lineup constructor is of a different race. In this case the actual similarity between the foils and the suspect may be lower than the lineup constructor realizes, producing a biased lineup. This would lower the probability that a positive identification was based solely on the witnesses' memory of the crime.

Some suggestive evidence that the race of the lineup constructor interacts with the race of the lineup members was reported by Brigham, Maass, Snyder, and Spaulding (1982). They asked a white police lineup constructor to make six-person photo lineups on four different occasions during a field study. On each occasion the police lineup constructor was asked to make two lineups, one using a white male target photo with a choice of 60 white male photos as foils, and one using a black male target photo with a choice of 60 black male photos as foils. This lineup constructor utilized 18 of the white photos in selecting the 20 foils needed for the white lineups, but only 13 of the black photos when selecting the 20 foils needed for the black lineups. He used some of the same black photos two or even three times as foils for different lineups. He was less selective about the black foils he chose than the white foils he chose. It appeared that he saw more similarity between the 60 black photos and the black target photos than between the 60 white photos and the white target photos.

The present study investigates the hypothesis that own-race bias affects the way individuals construct lineups. It was predicted that own-race bias will produce an interaction between the race of the lineup constructor and the race of the lineup members in photos chosen for a lineup. As a result of perceiving more similarity among other-race potential foils, lineup constructors are expected to be less selective about which other-race foils they chose than which own-race foils they chose.

METHOD

Subjects

Subjects were 90 black and 78 white male and female undergraduates enrolled in introductory psychology classes at Florida State University. All subjects received research participation credit for taking part. White and black subjects were run separately by same-race experimenters.

Procedure

Subjects were asked to construct photographic lineups by selecting five distractor photos which were "reasonably similar in general appearance" to a designated target photo. Each subject constructed two lineups, one of photos of black males and one of photos of white males.

Each subject was given a color Polaroid photo of the target, a head-and-shoulder "bust shot" of a male, and a face-down stack of 78 additional color Polaroid photos of same-race males of approximately the same age. Each subject

was instructed to pick photos from the pile, one at a time, and continue until he or she had accumulated five photos which were "reasonably similar in general appearance" to the target photo, or until he or she had gone through the entire stack. Subjects were not allowed to go back through photos they had already judged as not meeting the above criterion. This was done twice, once with photos of blacks and a black target photo and once with photos of whites and a white target photo (order counterbalanced).

Four target photos were used for each stack of distractor photos (each subject saw only two target photos, one for each race). The order in which the stack of distractor photos was arranged was different for each of its target photos. Each stack was arranged so that persons relatively similar and dissimilar to the target photo would be equally distributed throughout the stack. The orderings for each target were based on similarity ratings provided by a different sample of 12 black and 17 white undergraduates. The photos were stacked in such a manner that any four photos taken in sequence would contain, in random order: one photo that had been rated very similar to the target photo, one rated similar, one rated dissimilar to the target, and one rated very dissimilar to the target photo. Each subject was timed with a stopwatch while constructing each lineup. The number of photos they surveyed and the number of photos they chose as similar to the target photo were recorded.

RESULTS

Analyses were conducted on four dependent measures: percent of photos surveyed, number of photos chosen, time per photo chosen and time per photo surveyed. These measures are not independent of each other since they involve overlapping data sets.[1] We considered the first two measures the most direct measures of the adequacy of lineup construction, while the two measures involving time may yield evidence on the process underlying biases in photo selection.

Number of Photos Surveyed

Many subjects did not find five photos within the particular stack of 78 that they felt were similar enough to the target photo to be included in that lineup. There was evidence of own-race bias in the percentage of subjects within each group that produced complete lineups. For black photos, a significantly higher percent of white subjects (67%) produced complete lineups for black photos than black subjects did (50%) (z for proportions $= 2.27$, $p < .03$). A parallel trend for

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[1] The first two measures were moderately related to each other: r (166) $= .45$ for black photos; r (166) $= .37$ for white photos, $p < .01$ in both cases. The two time measures were related to each other to a similar degree: r (166) $= .45$ for black photos; r (166) $= .51$ for white photos, $p < .01$ in both cases. The first two measures were related to the two time measures to a lesser degree (mean $r = . -15$).

white photos did not occur; 69% of black subjects and 56% of the white subjects selected five photos (z for proportions $= .92$, ns).

A 2 $\times$ 2 analysis of variance (race of subject $\times$ race of target photo) found, as predicted, a significant interaction between race of subject and race of lineup [F (166) $= 4.42$, $p < .04$]. Further analysis revealed that this was primarily due to the white subjects' responses. They surveyed significantly more white photos to make their white lineup than black photos to make their black lineup [t (155) $= 3.01$, $p < .01$]. Black subjects surveyed almost exactly the same number of black and white photos [t (166) $= .00$, ns.] to make their lineups. Figure 1 depicts this interaction.

Main effects were found for race of lineup [F (1,166) $= 4.66$, $p < .03$]; subjects surveyed significantly more white photos than black photos. White subjects surveyed significantly fewer black photos than did black subjects [t (166) $= 2.22$, $p < .03$] while both groups surveyed a similar number of white photos [t (166) $= .76$, ns.]

Number of Photos Chosen

As predicted, there was an interaction between race of the subject and the race of the photos [F (166) $= 18.21$, $p < .01$]. An inspection of the cell means revealed that both groups exhibited own-race bias by choosing more other-race photos than own-race photos as "reasonably similar" to the target photos. White subjects picked significantly more black photos as similar to the target photos than they did white photos [t (166) $= 2.64$, $p < .01$]. Although they used the same photos as the whites, black subjects did the opposite and chose significantly more white photos than black photos [t (166) $= 3.40$, $p < .01$]. Figure 2 displays this interaction.
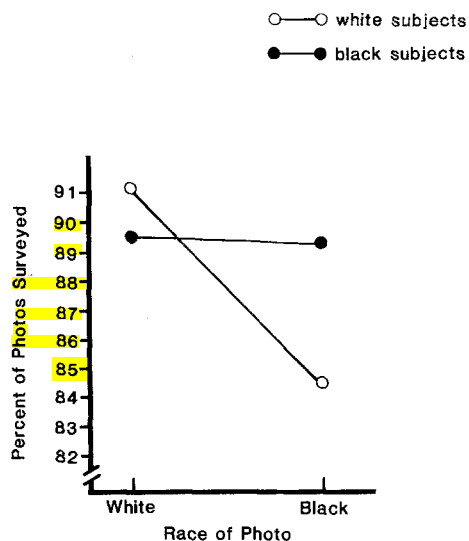

Fig. 1. Percent of black and white photos surveyed by black and white subjects.
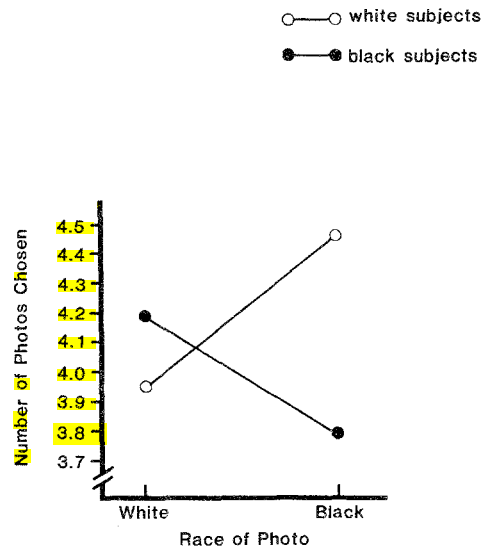
Fig. 2. Number of black and white photos chosen as similar to the target photo by black and white subjects.

It was also found that white subjects chose significantly more black photos than black subjects did [t (166) = 4.57, $p < .01$], but there was not a significant difference when the two groups are compared on white photos [t (166) = 1.47, ns.]. These findings indicate that whites and blacks showed significant within-subject differences on the two sets of photos but the between-group differences were significant only on the black photos.

Time Per Photo Chosen

An interaction between race of subject and race of lineup occurred, similar to the one on number of photos chosen [F (166) = 10.10, $p < .01$]. Inspection of the cell means indicated that both groups spent significantly more time per own-race photo chosen than per other-race photo chosen. Whites took significantly more time per white photo chosen than per black photo chosen [t (166) = 2.34 , $p < .01$] and blacks spent significantly more time per black photo chosen than per white photo chosen [t (166) = 2.16, $p < .03$].

As was the case with number of photos chosen, there were significant between-group differences on black photos but not on white photos. White subjects spent significantly less time per black photo chosen than did black subjects. [t (166) = 4.06, $p < .01$]. No significant difference was found between the groups on time per white photo chosen [t (166) = .43, ns.]. Figure 3 depicts this relationship.

Time Per Photo Surveyed

Main effects were found for race of subject [F (1,166) = 13.31, $p < .01$] and race of photo [F (1,166) = 9.83, $p < .01$]. Black subjects took significantly more
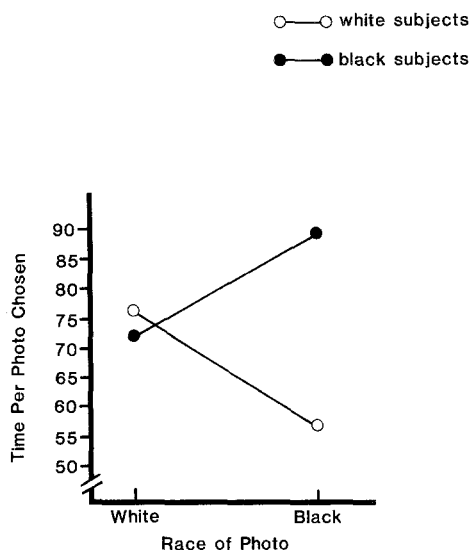
Fig. 3. Time per black and white photo chosen by black and white subjects.

time than whites for both black [t (166) = 5.20, p < .01] and white photos [t (166) = 5.75, p < .01] surveyed. Both blacks [t (166) = 9.83, p < .01] and white subjects [t (1,166) = 1.94, p < .06] tended to take significantly longer per black photo surveyed than per white photo surveyed.

Unlike the other three measures, no significant interaction occurred between race of photo and race of subject for this measure. Hence, the own-race bias does not stem from a more lengthy perusal of own-race faces. The finding that black subjects took significantly more time than whites per photo surveyed is consistent with the general trend that blacks demonstrated more overall selectiveness about the lineups they constructed. Both groups spent significantly more time per black photo surveyed. This suggests that the quality of the white photos may have been slightly better because the camera adjustments captured the image of white faces better than black faces.

DISCUSSION

These data support the hypothesis that the race of the lineup constructor can interact with the race of the lineup members. Both black and white subjects showed an own-race bias in their lineup construction behavior on three of four measures. The lineup constructors were significantly more selective about which photos went into their own-race lineups than their other-race lineups. They spent more time to find fewer photos on their own-race lineups than on their other-race lineups. This appeared to result from different processes in the two races. The groups were equally selective on white lineups, but when constructing black lineups the whites became much less selective while the blacks became much more selective. As a result of these processes, the "fairness" of other-race

lineups is likely to be negatively affected. The results of this study also suggest that the black subjects were better lineup constructors because they showed a greater overall level of selectivity.

A factor which may have effected the degree of own-race bias is the degree of cross-racial experience. Cross-racial experience has long been thought to have a mediating effect on own-race bias (Feingold, 1914). Although several cross-racial recognition studies have failed to find such a relationship (Brigham & Barkowitz, 1978; Cross, Cross, & Daley, 1971; Malpass & Kravitz, 1969), some support for this hypothesis can be found in Luce (1974) and in Brigham et al. (1982).

The fact that the black subjects exhibited less own-race bias than the white subjects would be in line with the above hypothesis because they probably had much more cross-racial experience. Though there was no direct measure of cross-racial experience it seems likely that the black subjects had generally more day-to-day cross-racial experience than the whites, since both sets of subjects were drawn from a university that is 92% white. We can speculate that the black subjects had to deal with a sea of white faces every day and learning to recognize and distinguish between white faces would be very adaptive for them. Conversely, many of the white subjects probably had not been exposed to a great number of black faces. There was not as much environmental press to learn how to distinguish between other-race faces for our white subjects as for our black subjects.

These results also provide support for the widely held assumption that the source of differential recognition of own- and other-race individuals is due to the perception of greater similarity in one race by another. This study provides a more direct test of the perception of greater similarities hypothesis than recognition studies because it does not involve memory. Both blacks and whites acted as if they perceived more similarity in outgroup members' appearance than in ingroup members' appearance. This finding extends the illusion of outgroup homogeneity to the physical appearance of the outgroup member.

ACKNOWLEDGMENTS

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