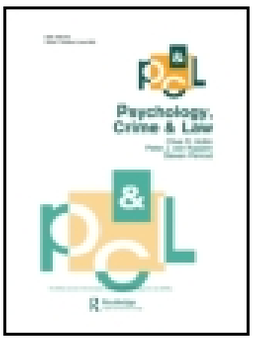

Psychology, Crime & Law

ISSN: 1068-316X (Print) 1477-2744 (Online) Journal homepage: http://www.tandfonline.com/loi/gpcl20

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To cite this article: Elisabeth C. Wells & Joanna D. Pozzulo (2006) Accuracy of eyewitnesses with a two-culprit crime: Testing a new identification procedure, Psychology, Crime & Law, 12:4, 417-427, DOI: 10.1080/10683160500050666

To link to this article: http://dx.doi.org/10.1080/10683160500050666

Psychology, Crime & Law, August 2006; 12(4): 417–427

Accuracy of eyewitnesses with a two-culprit crime: Testing a new identification procedure

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(Received 2003; revised 2004; accepted 2004)

Abstract
The accuracy of eyewitness identification in a two-culprit crime was examined using two traditional lineup procedures – simultaneous and sequential – and a newly developed procedure called the two-person serial lineup. Target-present and –absent lineups with each procedure were used. In addition, the ability of witnesses to describe and match culprits to their actions was examined. Participants ($N = 150$) watched a videotaped, staged, theft involving two culprits that had different roles in the crime (assailant vs accomplice). Witnesses were significantly more likely to correctly identify the accomplice than the assailant. There was no evidence of role transference. When the culprits were present in the lineup, identification accuracy did not vary as a function of lineup procedure. When the culprits were absent from the lineup, there was a trend for the two-person serial lineup to produce higher correct rejections than the simultaneous or sequential procedures. Witnesses were significantly more likely to describe the appearance of the assailant, however, they were more accurate with their appearance descriptions of the accomplice. Witnesses were more accurate when describing what the assailant did than the accomplice. A relation between description length and identification accuracy was not found.

Keywords: *Witnesses; lineups; memory; multiple culprits*

Introduction

There are indications that multiple-culprit crimes are on the rise. For example, homicides involving multiple culprits in the United States have seen a steady increase since the late 1980s and early 1990s (Bureau of Justice Statistics, 2002). Similarly in Canada, gang-related homicides have more than tripled since 1995 (Statistics Canada, 2001). Considering the growth of multiple-culprit crimes, it is surprising that very little empirical research has examined the accuracy of eyewitness identification when more than one culprit is involved. Not only must eyewitnesses identify the culprits but they also must recall the roles that each person played. Such research may benefit the criminal justice system when one considers the different sentences available to, for example, the gunman versus the driver of the get-away car.

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ISSN 1068-316X print/ISSN 1477-2744 online
DOI: 10.1080/10683160500050666

Previous research has found that as the number of culprits increase, accurate eyewitness identification rates decrease (Clifford & Hollin, 1981; Shapiro & Penrod, 1986; Yarmey, 1982). In terms of correct role assignment in multiple-culprit crime, previous research has found a tendency for witnesses to label anyone selected from the lineup as the principle culprit (Geiselman, Haghighi, & Stown, 1996). Clearly, eyewitness performance with multiple-culprit crime can be improved. The present research was concerned with developing a new lineup procedure for two-culprit crime and determining whether lineup procedures influence a witness' ability to match culprits to their actions.

Identification procedures

A common identification procedure used in single-culprit crime is the simultaneous lineup. That is, the witness views all lineup members at the same time. Such a procedure permits, and possibly encourages the use of a relative judgement (Wells, 1984). More specifically, the witness chooses the lineup member that most closely resembles his/her memory of the culprit relative to the other lineup members being viewed. Relative judgements are problematic and can have serious consequences if the witness is viewing a target-absent lineup (i.e., the suspect is innocent).

The sequential lineup procedure is an alternative to limit or eliminate witnesses' use of a relative judgment (Lindsay & Wells, 1985). With a sequential lineup, the exact number of photographs to be viewed is not disclosed to the witness. The witness is shown each lineup member serially and is asked to decide whether that person is the culprit before being allowed to view the next member. Once a picture of a lineup member has been viewed, the eyewitness can neither go back to that photograph, nor can the witness scan ahead in the sequence. Prior to viewing the sequential lineup, the witness is informed about the rules of viewing and that the culprit may or may not be present. Lindsay and Wells (1985) reasoned that if relative judgments were a contributing factor in false identifications, then the sequential procedure would inhibit using such a judgement, and in turn, decrease false identifications. Moreover, the sequential procedure may encourage the witness to use an absolute judgment where the witness compares his/her memory of the culprit with each lineup member to determine whether it is the culprit.

Steblay, Dysart, Fulero, and Lindsay (2001) conducted a meta-analysis of eyewitness accuracy rates in sequential versus simultaneous lineups. The data indicated that in target-present lineups, correct identifications were higher with a simultaneous versus sequential procedure. In contrast, with target-absent lineups, correct rejections were higher with a sequential versus simultaneous procedure. These results were based on single-culprit crime. There appears to be no published data examining the impact of sequential presentation on lineups with multiple culprits. The meta-analysis conducted by Steblay et al. (2001) included some unpublished experiments with multiple culprits. Based on these experiments, they concluded that with more than one culprit the superiority of the sequential procedure with target-absent lineups was eliminated, while the simultaneous advantage was retained with target-present lineups.

With the possible reduced superiority of the sequential lineup, a new identification procedure, termed the two-person serial lineup, is proposed for two-culprit crime. The two-person serial lineup procedure uses the rationale of the encoding specificity principle as its starting point (Tulving & Thompson, 1973). That is, information into memory is not

encoded as isolated, individual items. Rather, each item is encoded into a richer memory representation that includes additional information available at the time; for example, the other culprit. Extending this notion, there may exist a contextual tag between the two culprits. In fact, this has been suggested in research examining mistaken identification of bystanders to a crime (Ross, Ceci, Dunning, & Toglia, 1994). Therefore, for recognition in lineups, cues should be used that help match the originally encoded representation of the memory to increase accuracy. Thus, asking witnesses to make identification decisions from a series of two-person lineups may help enhance recognition memory. Witnesses' viewing the two-person serial lineups will have the benefit of contextual, congruence effects to enhance recognition memory due to the presence of the other culprit's foil photograph in the mini lineup. The two-person serial lineup may also be incorporating both relative and absolute judgment strategies; firstly, making a relative judgement between the two photographs then secondly, making an absolute judgement to determine which of the culprits it is (if in fact it is one of the culprits).

For the two-person serial lineup, the witness will view lineup members presented in pairs. Each suspect will always be paired with a foil (i.e. a known to be innocent lineup member), and the remaining paired lineup members will be foils. For example, the first set of photos will be a foil matching the assailant's description and the suspected accomplice, the second set will contain two foils, the third set will contain another foil matching the accomplice's description and the suspected assailant. This process will continue until 12 photos are shown (six for the assailant and six for the accomplice). When presented with each two-person set, the witness will be asked to make an identification decision and state the culprit's role in the crime, if a photo is chosen. The present study will compare the identification accuracy of a two-culprit crime using a simultaneous, sequential, or the two-person serial lineup procedure. Both target-present and target-absent lineups will be examined to assess correct identification and correct rejection rates.

Descriptions

Few studies have examined the descriptions of culprits by eyewitnesses. Limited research using one culprit indicates that these descriptions tend to be vague and limited in detail (Lindsay, Martin, & Weber, 1994; Pozzulo & Warren, 2003). The present research will further explore this area in the context of two-culprit crime. Descriptors will be examined for quantity and accuracy of person and action details for each culprit (i.e., assailant vs accomplice).

Previous research has not found a significant relationship between description accuracy and identification accuracy (Cutler, Penrod, & Martens, 1987; Pigott & Brigham, 1985). Furthermore, a series of recent experiments by Pozzulo & Warren (2003) examined whether description length could be used to determine a witness's ability to make accurate lineup identifications. Both experiments indicated that there may *not* be a significant relationship between the quantity (total number) of descriptors reported and accurate identification rates from simultaneous target-present and -absent lineups (Pozzulo & Warren, 2003). To further explore these results in a two-culprit crime situation, the relationship between description length and identification accuracy will be examined.

Method

Participants

Participants ($N = 150$; age range 18–61 years; $M = 27.4$ years, $SD = 8.97$) were students from a university in Eastern Ontario, Canada. Participants either received course credit for their participation or were entered into a cash draw.

Design

A 2 (presence/absence of culprits) $\times$ 3 (lineup procedure) between subjects factorial design was used. The dependent measures included witnesses' descriptions of the culprits (coded for quantity and accuracy), witnesses' identification decisions, and witnesses' accuracy in the assignment of the two culprits' roles. Participants saw a brief film depicting a staged crime involving two culprits. After viewing the crime the participants were asked to make identifications from one of three types of lineups (simultaneous vs sequential vs two-person serial). Half of the participants were shown target-present lineups. The remaining participants were shown target-absent lineups.

Materials

Film. A mugging involving two male perpetrators (an assailant and an accomplice) and one female victim was staged and videotaped. The crime began with a clear view of the culprits loitering inside a stairwell and discussing their plan. A close-up view of the culprits was presented for approximately 20 seconds. Then, a female was seen entering the area. When the female appeared, the accomplice stepped in front of her and inquired if the library was in the direction he was pointing, distracting her from the assailant about to snatch her purse. When the female began to give directions to the library, the assailant grabbed her purse. The accomplice and the assailant then ran away from the victim in opposite directions. The crime lasted approximately 60 seconds.

Description form. Participants were asked to complete an open-ended description form that asked them to describe the crime, the assailant's appearance, and the accomplice's appearance. The description forms were coded for total number of action descriptors for the accomplice, total number of action descriptors for the assailant, total number of appearance descriptors for the accomplice, and total number of appearance descriptors for the assailant. Action descriptors included any descriptor that detailed the culprits' activities prior to and during the crime [e.g. "the assailant grabbed the woman's purse (1 point) and ran away (1 point)" was counted as two action descriptors]. A template for action descriptors was created to facilitate coding.

Proportions of correct total descriptors were then calculated for each of the above categories. Age, height, and weight were given an acceptable range (age $\pm$ 3 years; height $\pm$ 2 inches; weight $\pm$ 10 pounds). If two or more adjectives were provided for an appearance descriptor (e.g. short, dark hair), each adjective was scored separately. Also, if a witness described the assailant as 'tall' or 'husky', rather than providing a specific measurement, such descriptors were scored as correct/incorrect based on pre-established criteria.

A second rater, independent from the initial rater, randomly selected and scored 20 description forms. Discrepancies were discussed until a decision was reached on how to code them. This coding process continued until reliability for the descriptor category was at a minimum of 0.8.

Lineups. A lineup consisting of six members was constructed for each culprit. The photographs were colour, head and shoulder views of the culprits and of men who resembled them. Each photo was approximately 3 × 5 inches. The culprits' photo positions were randomly determined across the arrays.

Foils were chosen based on their physical similarity to each of the culprits' physical appearances. In this manner, foils were selected to match the assailant, and another set of foils were selected to match the accomplice. The foils were rated by two researchers for similarity to each culprit. Foils having the highest combined rankings were chosen. Foils for the target-present and –absent lineups were the same. For target-absent lineups, the photos of the culprits were replaced with foils that were similar in appearance.

Simultaneous lineups. The photographs (for the assailant or the accomplice) were placed on a file folder in two rows of three with each photograph numbered from 1 to 6. A lineup response form was used to allow the participant to record his/her lineup decision. The form consisted of the lineup instructions and seven boxes; six boxes numbered 1 to 6 corresponding to each photograph's location on the file folder and a box labeled "Not Here". Witnesses were asked to look at the photos and determine if they saw the culprit. They also were informed that the culprit may or may not be present. If participants saw the photo of the culprit, they were asked to place a checkmark in the box on the response form that corresponded to the number of the lineup member chosen. If participants did not see the photo of the culprit, they were asked to place a checkmark in the "Not Here" box. This procedure was repeated for the second culprit's lineup. There was an accomplice-present or -absent simultaneous lineup and an assailant-present or -absent lineup, that were shown to the witnesses in counterbalanced order.

Sequential lineups. The same photographs used in the simultaneous lineup were used. The experimenter presented the photos individually to the witnesses from a large stack of photos as to conceal the number of photos to be shown. As with the simultaneous procedure, there was an accomplice-present or -absent sequential lineup and an assailant-present or -absent lineup, that were shown to the witnesses in counterbalanced order. The witnesses were given additional instructions that they would be shown one picture at a time and were to decide for each photo whether it was of the culprit. The response form consisted of the question "Is #1 the culprit? No/Yes" and continued in the same format for 12 photos (to conceal the true number of photos to be shown; Lindsay, Lea, & Fulford, 1991). If witnesses made an identification, they were asked to indicate if the person they had selected was the assailant or accomplice, and to briefly describe this person's role in the crime. Witnesses viewed all the photographs in the lineup, whether or not they made a selection from the lineup. Multiple selections were recorded and treated as an error.

For the simultaneous and sequential presentation modes, each witness was shown two lineups, one for the assailant and one for the accomplice. The order of lineups was counterbalanced. During lineup identification tasks, an attempt was made to control for experimenter bias by standing behind the seated participants so they could not observe unintended body language suggestions.

Two-person serial lineup. The same photographs from the simultaneous and sequential procedures were used. Witnesses were told that they would see a series of two-person lineups. Witnesses were informed that each two-person lineup may or may not contain a picture of either the assailant or accomplice, but that it would not contain both culprits at

one time. After viewing the two-person lineup, witnesses were asked if either of the photos was of the culprit. If witnesses responded "yes", they were asked to place a checkmark in the box matching his lineup number on the response form and to state which culprit they had identified (assailant or accomplice) and to briefly describe this person's role in the crime. After witnesses had made their identification decision, another two-person lineup was presented, and so on, until witnesses had viewed the six sets of paired photos. The witnesses were not made aware of how many two-person lineups they would be presented with, nor were they able to go back in the series and view previously seen lineup photographs or change their identification decisions. Each culprit was paired with a foil. Pairings within each type of lineup (accomplice versus assailant) and the positions of the culprits were randomly determined.

Procedure

Each testing session was conducted in the laboratory with small groups of one to three adults at a time. Participants were greeted by the experimenter and asked to watch a video while the experimenter prepared for the study. To mimic the unexpectedness of real crime, participants were led to believe that they were participating in a survey assessing their views on issues related to crime and the justice system. After watching the video, the witnesses were told that we were interested in their memory for crime and culprits. At this point, they were asked to provide a written description of the crime and the culprits' appearances. The description form also served as a filler task to allow time to elapse between witnessing and identification (approximately 25 minutes). After completing the description form, witnesses were presented with one of the six identification tasks. Participants were randomly assigned to one of the following conditions: (1) two target-present simultaneous lineups, (2) two target-present sequential lineups, (3) the target-present two-person serial lineup, (4) two target-absent simultaneous lineups, (5) two target-absent sequential lineups, or (6) the target-absent two-person serial lineup. Participants receiving the simultaneous lineups were asked to make two separate identifications from two separate lineups (one for each culprit involved in the crime). Participants in the sequential condition were asked to make two separate identifications from two sequential lineups (one for each culprit involved in the crime). The remaining participants made identifications from the two-person serial lineup. After completing the identification task, participants were thanked for their time and debriefed.

Results

Identification accuracy

Target-present lineups. The difference in correct identifications between the two culprits was assessed using McNemar's Test, that is, a nonparametric test for two related dichotomous variables to test for changes in responses using a chi-square distribution (Everitt, 1993). Collapsing over lineup procedure, witnesses were more likely to correctly identify the accomplice (0.28) than the assailant (0.16), χ^2 ($n = 75$), $p < 0.05$. The correct identification rate for the assailant did not differ as a function of lineup procedure, χ^2 (2, $n = 75$) = 1.79, ns. The correct identification rate for the accomplice did not differ as a function of lineup procedure, χ^2 (2, $n = 75$) = 2.78, ns. The correct identification rates for the assailant and accomplice as a function of lineup procedure can be found in Table I.

Table I. Target-present lineups identification decision rates (n) as a function of culprit role and lineup procedure.

	Culprit role					
	Accuracy for assailant			Accuracy for the accomplice		
Lineup procedure	Correct	Foil	False rejection	Correct	Foil	False rejection
Simultaneous	0.24 (6)	0.40 (10)	0.36 (9)	0.40 (10)	0.24 (6)	0.36 (9)
Sequential	0.12 (3)	0.36 (9)	0.52 (13)	0.20 (5)	0.44 (11)	0.36 (9)
Two-person serial	0.12 (3)	0.44 (11)	0.44 (11)	0.24 (6)	0.28 (7)	0.48 (12)
Total	0.16 (12)	0.40 (30)	0.44 (33)	0.28 (21)	0.33 (24)	0.40 (30)

Role assignment. Of the 44% of witnesses that accurately identified either the assailant or accomplice, accuracy of role assignment was not an issue. Only one witness could not indicate which role the target (accomplice only in this case) played in the crime, citing an inability to remember which "guy did what". Only 8 of the 75 witnesses who saw target-present lineups accurately identified *both* the assailant and accomplice.

Target-absent lineups. The difference in correct rejections between the two culprits was assessed using McNemar's Test. Collapsing over lineup procedure, correct rejection rates did not differ between the assailant and accomplice (0.59 vs 0.59), χ^2 ($n = 75$) $= 0.00$, ns.

The correct rejection rate for the assailant as a function of lineup procedure approached significance, χ^2 (2, $n = 75$) $= 5.39$, $p < 0.07$. Witnesses were more likely to correctly reject the assailant lineup when a two-person serial lineup was used compared to a sequential lineup, χ^2 (1, $n = 50$) $= 5.33$, $p < 0.02$. Correct rejection rates did not differ between the two-person paired procedure and the simultaneous procedure, χ^2 (1, $n = 50$) $= 2.23$, ns. Also, the correct rejection rates did not differ between the simultaneous and sequential procedures, χ^2 (1, $n = 50$) $= 0.72$, ns.

The correct rejection rate for the accomplice as a function of lineup procedure approached significance, χ^2 (2, $n = 75$) $= 4.07$, $p < 0.10$. Witnesses were more likely to correctly reject the accomplice lineup when a two-person serial lineup was used compared to a simultaneous lineup, χ^2 (1, $n = 50$) $= 4.02$, $p < 0.04$. Correct rejection rates did not differ between the two-person serial procedure and the sequential procedure, χ^2 (1, $n = 50$) $= 0.80$, ns. Also, the correct rejection rates did not differ between the simultaneous and sequential procedures, χ^2 (1, $n = 50$) $= 1.28$, ns. The correct rejection rates for the assailant and accomplice as a function of lineup procedure can be found in Table II.

Table II. Target-absent lineups identification decision rates (n) as a function of culprit role and lineup procedure.

	Culprit role			
	Accuracy for assailant		Accuracy for the accomplice	
Lineup procedure	Correct	False positive	Correct	False positive
Simultaneous	0.56 (14)	0.44 (11)	0.44 (11)	0.56 (14)
Sequential	0.44 (11)	0.56 (14)	0.60 (15)	0.40 (10)
Two-person serial	0.76 (19)	0.24 (6)	0.72 (18)	0.28 (7)
Total	0.59 (44)	0.41 (31)	0.59 (44)	0.41 (31)

Descriptions

Quantity of descriptors reported. The total number of appearance and action descriptors were compared for the assailant versus accomplice. Using a paired samples t-test, witnesses reported a greater number of appearance descriptors for the assailant ($M = 8.74$, $SD = 3.72$) versus accomplice ($M = 7.91$, $SD = 3.08$), $t(149) = -4.34$, $p < 0.001$, $\eta^2 = 0.11$. Also using a paired samples t-test, witnesses reported a similar number of action descriptors for the assailant ($M = 4.44$, $SD = 2.05$) versus accomplice ($M = 4.23$, $SD = 2.04$), $t(149) = -1.58$, ns, $\eta^2 = 0.02$.

Accuracy of descriptors reported. The proportion of accurate appearance and action descriptors were compared for the assailant versus accomplice. Using a paired samples t-test, witnesses were more accurate reporting appearance descriptors for the accomplice ($M = .80$, $SD = 0.70$) versus assailant ($M = .67$, $SD = 0.20$), $t(146) = 2.25$, $p < 0.03$, $\eta^2 = 0.03$. Thus, although witnesses provided a greater total number of appearance descriptors for the assailant than the accomplice, these descriptors were *not* more likely to be accurate.

Using a paired samples t-test, witnesses were more accurate with assailant action descriptors ($M = 0.89$, $SD = 0.18$) versus accomplice action descriptors ($M = 0.83$, $SD = 0.22$), $t(147) = -3.47$, $p < 0.002$, $\eta^2 = 0.08$. Although witnesses did not differ in the number of action descriptors recalled, they were more accurate when describing what the assailant did than the accomplice.

Relation between describing and identifying

An Analysis of Variance (ANOVA) was performed to examine whether groups differed on description length as a function of identification accuracy for each the accomplice and assailant. Descriptors for appearance and actions of the assailant were combined for a total number of assailant descriptors. Also, descriptors for appearance and actions of the accomplice were combined for a total number of accomplice descriptors. Note that description accuracy was not examined given the difficulty that would occur in trying to use it in real life. Consider, that with real crime, the police have no way of knowing whether the description provided by a witness is accurate. At best, police can compare the witness' description with the suspect's appearance but there is no way of knowing with certainty if the suspect is the culprit.

Assailant. Witnesses who correctly identified the assailant did not provide significantly longer (more detailed) descriptions ($M = 13.31$) than witnesses who incorrectly identified the assailant ($M = 13.08$), $F(1, 148) = 0.82$, ns.

Accomplice. Witnesses who correctly identified the accomplice did not provide significantly longer (more detailed) descriptions ($M = 12.09$ descriptors) than witnesses who incorrectly identified the accomplice ($M = 12.17$ descriptors), $F(1, 148) = 0.01$, ns.

Discussion

A new lineup procedure for two-culprit crime was developed and tested against current procedures commonly used for single-culprit crime. The present research examined the new two-person serial lineup procedure and the traditional simultaneous and sequential

lineup procedures under two-culprit crime conditions. The accuracy of witnesses in describing and matching culprits to their actions also was assessed.

The present research found that the accomplice was identified more readily than the assailant by witnesses. This finding corresponds with results from previous research by Geiselman, MacArthur, and Meerovitch (1993). In fact, Geiselman et al. (1993) reported very similar correct identification rates for the accomplice (0.30) and the assailant (0.10) as in the present study. However, the finding that the accomplice was more readily identified than the assailant operates in contrast to previous research where participants are more likely to recognize individuals who play central, as opposed to peripheral, roles in an event (Christianson & Loftus, 1987). Attorneys may do well to consider how the witness' viewing conditions for the crime could have effected eyewitness performance, and not simply the centrality of the culprit's role in determining the importance of an eyewitness's testimony at trial. There also are a number of other factors to consider that may be contributing to the higher correct identification rate of the accomplice versus the assailant. For example, the distinctiveness of each culprit (Davies, Shepherd, & Ellis, 1979; Kleider & Goldinger, 2001) and the quality of lineup for each culprit can effect identification rates (Lindsay, Smith, & Pryke, 1999). At this point, it is not clear why the accomplice received a higher correct identification rate than the assailant.

Most importantly to the present research, correct identification rates did not differ as a function of lineup procedure (i.e. simultaneous, sequential, or two-person serial) for the assailant or the accomplice. None of the procedures tested seemed to be better for identifying culprits from a two-culprit crime. When a new lineup procedure is proposed it would be undesirable for it to reduce the number of correct identifications from procedures currently in use.

Problematic is the overall low rate of correct identification (0.16 and 0.28 for the assailant and accomplice, respectively). Eyewitness identification studies with adults involving only one culprit have found higher correct identification rates, where a rate of 0.80 is not unusual (e.g. Lindsay, Pozzulo, Craig, Lee, & Corber, 1997). However, the present research was concerned with the procedural manipulations of lineup administration for a two-culprit crime and did not compare multiple culprit versus single-culprit identification. Future research that compares both conditions directly will illuminate the relationship and provide a more detailed understanding of the findings.

The appearance descriptors further inform the identification decision results. Witnesses were more likely to describe the physical appearance of the assailant, yet they were more likely to accurately identify the accomplice than the assailant. Although, the analyses revealed that the witnesses were actually more accurate in describing the appearance of the accomplice than the assailant. Perhaps these errors for the assailant involved some degree of transference for certain details. For example, one witness described the assailant as wearing a red jersey, when it was actually the accomplice who wore a red shirt. Others occasionally described the assailant as both asking for directions to the library and snatching the purse, when in reality it was the accomplice who distracted the victim by asking for directions. However, there was no evidence of role transference (i.e. mislabelling the accomplice with the assailant) when the identification decisions were examined. It is important to note that only 8% of witnesses correctly identified both culprits. No one completely reversed the roles of the two culprits. These results lend support to previous research by Geiselman et al. (1996) who also found no evidence of role transference.

Under target-absent conditions, witnesses rejected accomplice-absent lineups and assailant-absent lineups at similar rates. This pattern of results is different from target-

present lineup conditions where accuracy was greater for the accomplice than the assailant. These findings may lend further support to the notion espoused by Pozzulo and colleagues (Pozzulo & Lindsay 1999; Pozzulo & Warren 2003) that correct identification decisions are driven by distinctly different processes than correct rejections.

Overall, there was a non significant difference in the rate of correct rejections for the accomplice and the assailant as a function of lineup procedure. However, there was a clear trend for the two-person serial lineup to increase correct rejections for both the assailant and accomplice compared to simultaneous and sequential procedures. Given correct identifications do not appear to be negatively effected by the two-person serial lineup, it may be worthwhile to investigate this procedure further. Intriguingly, the sequential lineup procedure seems to lose its superiority to increase correct rejections over the simultaneous procedure with two-culprit crimes. Of course, these data would require comparison with comparable single-culprit identification rates for definitive conclusions. Steblay et al. (2001) also found that the sequential superiority effect was eliminated under target-absent conditions in multiple culprit identification tasks. It is hypothesized that a strict absolute judgment strategy is not as effective when dealing with two- versus single-culprit crime. The two-person serial lineup can be conceptualized as a two-person sequential lineup that allows an initial relative judgment, but also forces witnesses to use an absolute judgement by requiring them to state which role the person played if a lineup member is identified.

Conclusions

The present research highlights the difficulty law enforcement officials may face when conducting lineups for multiple-culprit crime. Overall, two-culprit crime seems to produce low correct identification rates (in absolute terms). Intriguingly, the accomplice may be identified at a higher rate than the assailant. Although the assailant may be the culprit of greater concern, if witnesses can identify the accomplice, police may be able to use the accomplice to find the assailant. Also advantageous to the justice system is that witnesses do not appear to mislabel the accomplice and assailant.

The new lineup procedure, two-person serial lineup, was developed and tested in response to the paucity of research on identification procedures for multiple-culprit crime. In a meta-analysis by Steblay et al. (2001), they suggested that the current identification procedures for single-culprit crime (i.e. sequential lineup) may not be appropriate for multiple-culprit crime. The two-person serial lineup appears to be a viable option, however, further research is necessary before it can be recommended.

Acknowledgements

This research was supported by a grant from the Social Sciences and Humanities Research Council to the second author.

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