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Co-witness Identification Speed Affects Choices from Target-Absent Photospreads

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Abstract

Objective: Three studies examined the influence of a witness's identification speed on the identification decision of another witness.

Hypotheses: Based on research documenting co-witness effects we expected co-witness speed to affect identification decisions from target-absent photospreads. Without prior research testing the effects of co-witness speed, we did not have a specific prediction regarding how fast (vs. slow) co-witness identification decisions would affect participant-witnesses' identification rates in Study 1. Based on the results from Study 1, in Study 2 we predicted that fast (vs. slow) co-witness decisions would increase choices from target-absent photospreads when the co-witness was known to have made a positive identification. In Study 3, co-witnesses rejected the photospread. Based on the previous studies, we hypothesized that fast (vs. slow) co-witness decisions would decrease choices from target-absent photospreads. However, because a photospread rejection is qualitatively different from an identification, this prediction was tentative.

Method: In all three studies, participants watched one of two stimulus videos with a confederate co-witness. After the video, the confederate made a fast (10 s) or slow (4 min) identification. Participants then attempted an identification from a target-absent photospread. In Study 1 (N = 101), the confederate's decision from the photospread was ambiguous. In Study 2 (N = 200) the confederate announced making a positive identification. In Study 3 (N = 151) the confederate co-witness rejected the photospread.

Results: In all three studies, participants paired with a fast co-witness made more choices from the target-absent photospread than did participants paired with a slow co-witness.

Conclusions: Fast co-witness identifications increased choices from the target-absent photospread regardless of whether a co-witness's decision was ambiguous (Study 1), whether they made an identification (Study 2), or rejected the photospread (Study 3). Given the effects of co-witness speed on identification decisions, it might be advisable to standardize the duration of identification procedures and inform witnesses of this standardization.

Keywords: eyewitness identification, co-witness influence, identification accuracy

Public Significance Statement: Eyewitnesses to crimes often witness events with other people present. Subsequent identification procedures that are conducted in the presence of these co-witnesses could communicate information about the speed of a fellow witness's identification. The current studies demonstrate that co-witness speed affects other witnesses' identification decisions. One potential mechanism for avoiding this influence is for police to standardize the length of identification procedures and inform witnesses of the standard length.

Co-witness Identification Speed Affects Choices from Target-Absent Photospreads

Eyewitnesses frequently witness criminal events with other people. Any conversations among witnesses about these shared experiences have the potential to impugn the integrity of memory reports, identification decisions, and criminal investigations (e.g., Wright, Memon, Skagerberg, & Gabbert, 2009). Beyond simply discussing their shared experience, co-witnesses might also complete identification procedures together. Consider one potential scenario in which this might happen: detectives investigating a crime in which witnesses are members of the same family might administer a photospread to all witnesses in sequence at their home. In such a scenario, co-witnesses might learn about aspects of each other's identification performance, even if they have been separated for the individual identification procedure itself. The current research examines one potential piece of information available in such a scenario – *co-witness identification speed* – and its influence on identification decisions. Before describing the potential for co-witness identification speed to affect witness decision-making, we briefly review extant literature on co-witnesses.

Co-witnesses to Crimes

The frequency with which co-witnesses observe criminal events is not trivial: Among 60 eyewitnesses surveyed in England, 88% reported witnessing a crime with others present; the average number of co-witnesses reported was 4.02 (*SD* = 6.52, Skagerberg & Wright, 2008a; see also, e.g., Paterson & Kemp, 2006; Wright & McDaid, 1996). When co-witnesses are present, they frequently discuss the crime. For example, in Skagerberg and Wright's survey of co-witnesses, 100% of witnesses who reported a robbery indicated that they discussed the crime with their co-witness(es); the figure was 46% for witnesses reporting violence against a person.

Any conversations between co-witnesses are potential sources of error in information relevant to criminal cases (e.g., Hope, Ost, Gabbert, Healey, & Lenton, 2008). For example, Zajac and Henderson (2009) had a confederate co-witness provide misinformation about a feature of the culprit's face. When witnesses later saw a photospread in which all photospread members had that feature, false identifications increased compared with a no misinformation control condition. Even after an identification decision is made, conversations between co-witnesses can be problematic. Indeed, learning about a co-witness's decision can distort a witness's own confidence report (Luus & Wells, 1994), thereby obscuring a potentially valuable cue to identification accuracy (e.g., Brewer & Wells, 2006; Sauer, Brewer, Zweck, & Weber, 2010).

More dramatically, perhaps, co-witness conversations can distort a witness's recollection of how a crime unfolded. In one experiment witnesses watched a stimulus video with another person, not realizing that there were two versions of the event: one with an accomplice and one without an accomplice. In post-viewing conversations, witnesses converged on whether an accomplice was present in the video, with witnesses who were less confident in their recollection of whether an accomplice was present conforming to their partner's version of events (Wright, Self, & Justice, 2000; see also, e.g., Garry, French, Kinzett, & Mori, 2008). Co-witness contamination of event reports might be especially likely if there are more than two witnesses sharing recollections (Slane & Dodson, 2019).

Co-witness effects can be moderated by characteristics of the co-witnesses themselves, as well as by features of the shared recollections. For example, on the one hand, co-witness effects can be amplified if co-witnesses are seen as particularly credible as a function of specialized knowledge or experience (i.e., former police officers vs. electricians; Williamson, Weber, &

Robertson, 2013). On the other hand, effects can be minimized if there are no demonstrated differences between the co-witness's information and the witness's own memory (Zajac, Dickson, Munn, & O'Neill, 2016).

Co-Witness Identification Speed

The potential for influence among co-witnesses forms the basis for recommendations that conversations be prevented and that identification procedures be conducted separately for each witness (e.g., Wells, Kovera, Douglass, Brewer, Meissner, & Wixted, 2020). In the current research, we test whether co-witnesses can still influence each other, even when the procedures themselves are separate. In particular, we test whether one witness's *identification speed* influences the identification decision of another witness. This cue might be present in the 21.4% of American jurisdictions that conduct live lineups (Police Executive Research Forum, 2013). In these procedures, even though independent viewing of the lineup is ensured, co-witnesses would likely be gathered together for the identification procedures because substantial resources are expended to secure in-person fillers and the presence of the suspect. As a result, police departments do not typically recreate live lineups on different occasions for each co-witness.

Cues to co-witness identification speed might also be present if photospreads are used instead of live lineups. For example, detectives might visit a place of business (i.e., a bank) or a private home if such a location is a natural gathering place for a group of co-witnesses. Critically, the cue of identification speed might be present even if lineup administrators follow recommended guidelines (e.g., double-blind administration, unbiased instructions, fair photospreads, collection of an immediate confidence report, Wells et al., 2020). The current research does not assume that information about co-witness identification speed is always

present. However, when it is present, it important to identify if – and how – it affects critical variables such as identification accuracy.

The possibility that co-witness speed could affect eyewitness decisions is based on decades of research showing the wide-ranging effects people have on one another in the identification context. Beyond the research on co-witness influence described above, there is evidence that lineup administrators influence witness decisions through both verbal interventions (e.g., when a lineup administrator asks whether "anyone in the lineup look[s] more similar to the person you saw than anyone else in the lineup," Clark, Marshall, & Rosenthal, 2009, p. 66) and nonverbal signals (e.g., smiling, Charman & Quiroz, 2016; see also Greathouse & Kovera, 2009). Indeed, the recommendation to administer identification procedures in a double-blind manner (e.g., Wells et al., 2020) is rooted in the recognition that people influence one another in this context.

The potential for social influence persists even after a decision is made, as reflected in robust findings regarding the effects of casual comments from lineup administrators on witnesses' post-identification confidence (e.g., Steblay, Wells, & Douglass, 2014). Lineup administrators themselves are not immune from influence: in one study, a confederate witness's confidence influenced whether a lineup administrator obtained a suspect identification from an independent witness (Douglass, Smith, & Fraser-Thill, 2005). More broadly, much of the field of social psychology is predicated on the recognition that people influence one another across a wide range of outcome variables and in a variety of contexts (e.g., Sundie, Cialdini, Griskevicius, & Kenrick, 2012).

In the specific case of co-witness identification speed, such a cue might influence a participant-witness's decision simply as a function of basic compliance pressures (e.g., Asch,

1955; Baron, Vandello, & Brunsman, 1996). For example, if a fast co-witness makes an identification and is interpreted as more likely to be accurate, participants might make an identification so their decision matches their partner. Beyond these basic pressures, a confederate's identification speed might imply more nuanced information about a witness's own upcoming task: for example, how easy or difficult it is likely to be, how likely it is that the culprit is present, or how easily the culprit stands out from the other photos. Any such shift in participants' expectations as a function of co-witness identification speed could have implications for a witness's willingness to choose a photo (e.g., Charman & Wells, 2007; Quinlivan, Neuschatz, Cutler, Wells, McClung, & Harker, 2012).

It is also possible, of course, that co-witness identification speed does not affect identification decisions. For example, if one photo immediately stands out from the other lineup members, co-witness speed is likely to be ignored completely. Alternatively, co-witness identification speed might be too subtle for witnesses to notice. Or, co-witness speed could be noticed, but deemed irrelevant because it comes from an unknown source: co-witness conversations among pairs of strangers versus previously-acquainted pairs shows that co-witnesses are less likely to incorporate information from strangers into an eventual memory report (Hope et al., 2008, see also Kieckhaefer & Wright, 2015). Co-witness identification speed might also be deemed irrelevant if witnesses evaluate their co-witness as less powerful than themselves (e.g., Carol, Carlucci, Eaton, & Wright, 2013; Skagerberg & Wright, 2008b). These investigations all suggest that there are conditions under which information from a co-witness might have limited (or no) effects on identification decisions. Taken together with data suggesting that there are broad effects of co-witnesses on each other, whether the variable of co-witness speed will be influential is not clear.

In the present set of studies, we had a straightforward exploratory goal: namely, to determine if co-witness identification speed affects witness decisions. In order to test this question, we focused on target-absent photospreads given their particular relevance for wrongful convictions. An additional reason for this constraint is that many manipulations have more pronounced effects in target-absent (vs. target-present) conditions (e.g., Steblay, 1997), including post-identification feedback (Bradfield, Wells, & Olson, 2002), lineup instructions (Steblay, 2013), and effects of sequential photospread administration (Palmer & Brewer, 2012; for explanations of differential effects in target-present and target-absent conditions, see Smith, Wells, Lindsay, & Myerson, 2018; Steblay, 2013).

Study 1

We tested whether co-witness identification speed affects participant-witness decisions when a co-witness confederate provided limited information about their decision. In spite of research suggesting that co-witness identification speed might not affect witness decisions (e.g., Hope et al., 2008), given the extensive corpus of research on co-witness effects, we expected co-witness identification speed to affect identification rates; we were agnostic about whether identification rates would be higher after slow vs. fast co-witness decisions.

Method

Participants

We conducted a power analysis using G*Power (Erdfelder, Faul, & Buchner, 1996) to estimate the required sample size to have 80% power to detect a medium effect size for categorial data in which co-witness identification speed was the only manipulated variable of interest. The recommended sample size was 105. We recruited 101 university student

participants (21 male, 80 female; aged 17 - 53, $M = 22.99$, $SD = 5.76$, no other demographic information was collected).

Materials

Stimulus videos. Participants were randomly assigned to watch one of two stimulus crime videos (Horry, Brewer, & Weber, 2016). One depicted two White males conducting a drug deal in a playground; these were the only people visible in the video. The entire video was approximately 74 s; the male drug buyer was in view for approximately 20 s. The other stimulus video depicted a White female shoplifting from a convenience store. There were two other individuals in the shoplifting video: a male store clerk and another female shopper. The entire video was approximately 90 s long; the female culprit was in view for approximately 12 s.

Photospreads. Six photos were used in each target-absent photospread. To generate the set of photos, 16 photos were selected by a research assistant from a database based on her judgment that they matched a modal description of the target. A set of mock witnesses ($N = 24$) then indicated whether any of the 16 candidate photos did *not* match the target's description. The 12 photos eliminated least frequently were then rated by a new set of participants ($N = 15$) for their similarity to the target. The male and female photos rated as most similar to their respective target were included in each of the target-absent photospreads. Five additional filler photos were randomly selected from the remaining candidate photos for each photospread (for more information on how the photos were selected see Horry et al., 2016).

Procedure

The research reported in this study, and in Studies 2 and 3, was approved by the Human Research Ethics Committee at Flinders University. Participants signed up for the study individually using SONA, an online participant recruitment portal. This portal is available for all

university students who want to participate as paid participants or for course credit. In our recruitment materials, we indicated that participants would be paid, not awarded course credit.

Upon arrival at the laboratory at the appointed time, participants were introduced to a confederate who was described as a fellow participant. After both signed a consent form, they were escorted to a laboratory cubicle (hereafter the *identification suite*) where they were told that their task would be to identify someone after watching a video together. In the identification suite participants were shown an example photospread. Research assistants conducting the study clearly stated in front of the confederate and the participant-witness that the only task in the identification suite would be to make an identification decision, not to wait for the computer to be set up or to answer any follow-up questions. This instruction was provided to ensure that participant-witnesses in the slow co-witness condition did not misinterpret their partner's delay as being caused by technical events in the identification suite such as reading lengthy instructions or waiting for the computer to be set up.

After seeing the identification suite, the pair was escorted to a separate room where they would watch the crime video. Before starting the video, the research assistant indicated that she would randomly determine which participant would make their identification first by asking participants to choose slips of paper from a bowl. The slips were described as having "first" and "second" written on them. In reality, both slips had second written on them. When the participant and confederate had chosen their slips, the confederate indicated that her slip said first thereby ensuring that the confederate always went first. After determining that the confederate would make her identification first, the research assistant started the crime video and left the viewing room, ostensibly to set up the identification task for the first witness. She returned to escort the confederate to the identification suite and told the participant-witness that

they would make their own identification next. The experimenter then returned to the viewing room and waited with the participant who was instructed to complete crossword puzzles as a distractor task.

In the fast co-witness identification speed condition, the confederate returned to the viewing room after 10 s; in the slow co-witness condition, she returned after 4 min. Upon returning to the viewing room, the experimenter asked the confederate: “have you made your identification decision” and the confederate simply said “yes.”

The experimenter and the confederate then left the video room, ostensibly for the experimenter to set-up the confederate with the final part of the experiment and set-up the identification suite for the participant. In order to avoid confounding co-witness decision time with the retention interval, the experimenter varied the time taken to complete these tasks depending on experimental condition. In the fast co-witness condition, the experimenter returned to escort the participant to the identification suite after 4 min; in the slow co-witness condition they did so after 10 s. During this time, the participant was instructed to continue working on the crossword puzzle.

Participant-witnesses attempted their own identification from a target-absent simultaneous photospread with unbiased instructions and a visible “not present” option. The photospread was administered on a computer; participants’ decision latency was recorded by the computer which recorded the length of time participants spent viewing the photospread before making a decision. The experimenter was not in the room when the participant-witness attempted the identification.

After making an identification decision, participants completed a six-item questionnaire assessing their confidence in their own identification on an 11-point scale from 0% confident to

100% confident (see Supplemental Materials, p. 1, for summary of confidence-accuracy data), the extent to which the confederate's identification was quick [from 1 (*not at all*) to 10 (*yes, definitely*)], how easy it was to figure out who the culprit was [from 1 (*extremely easy*) to 10 (*extremely difficult*)], the extent to which the confederate was accurate [from 1 (*I think it is definitely not accurate*) to 10 (*I think it is definitely accurate*)], how long the confederate's identification took (in seconds, open-ended), and the extent to which they thought their own identification would be easy after the confederate returned to the viewing room [from 1 (*I thought it was going to be extremely easy*) to 10 (*I thought it was going to be extremely difficult*)].

After the study was over, participants were paid $10 AUD for their participation. A debriefing was emailed to all participants after the study was complete.

Results

Manipulation Checks

To ensure that the confederate's identification speed was successfully manipulated, we assessed participant-witnesses' responses on two measures. First, participants indicated significantly more agreement that the confederate's decision was quick in the fast condition (M = 7.08, SD = 2.31) than in the slow condition (M = 5.18, SD = 1.88), $t(99) = 4.52$, $p < .001$, d = 0.90, 95% CI [0.49, 1.31]. Second, participant-witnesses provided significantly shorter estimates of how many seconds the confederate's identification took in the fast condition (M = 19.00, SD = 20.71) than in the slow condition (M = 31.48, SD = 33.11), $t(99) = 2.28$, $p = .025$, d = 0.45, 95% CI [0.06, 0.85]. Co-witness identification speed did not affect any other self-report measures (see Supplemental Materials Table S1).

Identification Decisions

Our main focus was on whether people chose from or rejected the lineup. Therefore, we collapsed across all positive identification decisions and examined incorrect picks compared with correct rejections. These identification patterns are reported in Table 1 (separately for the two stimulus targets, as well as overall). A 2 (slow co-witness vs. fast co-witness) x 2 (incorrect pick vs. correct rejection) chi-square analysis revealed a significant effect of co-witness speed, $\chi^2(1, N = 101) = 4.71$, $p = .031$, $\Phi = .21$, with fewer choices made in the slow (28%) than the fast condition (49%).

An alternative approach would be to examine choosing rates for the most plausible filler; however, in at least one condition (in all studies) identifications of the most plausible filler were too few to satisfy the criteria for conducting a chi-square analysis. The full breakdown of the identification decision patterns is reported in Supplemental Materials (Table S2).

As we had no *a priori* reason to expect any particular differences in response patterns across the two sets of stimulus materials, we did not design the present studies to have sufficient power to test for an interaction between co-witness identification speed and target stimulus (i.e., male vs. female target). However, examining the descriptive statistics (see Table 1) suggests a more pronounced effect for the female than the male target. Different identification patterns for different sets of stimulus materials involving varied encoding and test stimuli are, of course, unsurprising. Consequently, we conducted a follow-up loglinear analysis to check for a possible interaction involving target: the three-way association between co-witness speed, target, and identification decision in Study 1 was non-significant, $k = 3$, $LR\ \chi^2(1) = 2.55$, $p = .110$ (for the full set of inferential statistics see Table S3 in the Supplemental Materials).

Analysis of witnesses' decision latency indicated no difference in how long witnesses took to make their own identification decisions in the fast ($M = 13.54$ s, $SD = 8.21$ s) versus slow

(M = 11.21 s, SD = 7.43 s) co-witness conditions, $t(99) = 1.49$, $p = .14$, $d = 0.30$, 95% CI [-0.69, 0.10].

Discussion

The results of Study 1 showed evidence of co-witness identification speed affecting lineup choosing, suggesting that this cue is neither too subtle to be noticed by witnesses, nor is it deemed irrelevant by witnesses to their own decision-making. Further, because the confederate's decision was ambiguous (i.e., it was unclear whether they chose from or rejected the lineup), these results suggest that co-witness speed can influence identifications in contexts where witnesses are prevented from learning what decision was made by their co-witness.

The mechanism underpinning the observed effect of co-witness speed (i.e., increased incorrect identifications when the co-witness made a fast identification) is unclear, particularly because an ambiguous identification leaves open to interpretation what identification decision was made by the co-witness. Because people tend to expect the target to appear in a lineup (Memon, Gabbert, & Hope, 2004), we speculated that participants mostly assumed their co-witness made a positive identification. If this was the case, the results might simply reflect conformity to the identification decision the fast co-witness was assumed to have made. In order to eliminate questions about how participants interpreted their co-witness's behavior, we made the identification decision unambiguous in Study 2.

Study 2

In Study 2, we measured the impact of co-witness identification speed on identification decisions when witnesses knew that their partner selected a photo from the photospread. Here, we wanted to avoid the possibility that witnesses used co-witness speed to make variable inferences about their co-witness's identification decision. In the previous study, some witnesses

may have concluded that a fast decision occurred because the culprit was easy to identify; others may have assumed that the target was obviously not present, or that the confederate returned from the identification suite quickly because she did not bother to examine the photos carefully and decided to reject the photospread. Based on our interpretation of Study 1, that people generally assumed a positive identification had been made, we hypothesized that fast (vs. slow) co-witness picks would increase identifications from target-absent photospreads.

Method

Participants

We conducted a power analysis using G*Power (Erdfelder, Faul, & Buchner, 1996) to estimate the required sample size to have 90% power to detect a small effect size for categorial data in which co-witness identification speed was the only manipulated variable of interest. The recommended sample size was 169. We recruited 200 to account for attrition in case participants became suspicious about the confederate's behavior. Participants were students at a large university (39 male, 161 female, M_{age} = 21.21 years, SD = 6.07, range 17-65).

Materials

Study 2 used the stimulus videos and photospreads from Study 1.

Procedure

The recruitment procedure was the same as in Study 1. After showing both participants (i.e., the participant and the confederate) the identification suite, determining that the confederate would make her identification first using the same method as in Study 1, and screening the stimulus video, the research assistant running the session left the viewing room, ostensibly to set up the identification task for the first witness. She then returned and directed the confederate to the identification suite. In this study, the research assistant did not leave the room with the

confederate, to ensure that there was no point during the study when the confederate was alone with the researcher. This was done to prevent participants from suspecting that that research assistant instructed the confederate to announce their identification decision. In order to avoid confounding co-witness decision time with retention interval, the research assistant delayed the confederate's identification in the fast co-witness condition by saying she heard a knock on the lab door and had to see whether another participant was arriving. The research assistant was absent for several minutes while checking on the door knock. When she returned, she then escorted the confederate to the identification suite. The confederate returned to the viewing room after 10 s. In the slow co-witness condition, there was no door knock. Instead, the confederate was immediately escorted to the identification suite after the stimulus video was over. She returned to the viewing room after 4 min.

To make the delayed return of the confederate more salient in the slow co-witness condition than it was in Study 1, participant-witnesses were not provided with any filler tasks and they were instructed to avoid using their phones or engaging in other activities (e.g., reading) while waiting for their co-witness partner to return.

Regardless of the identification speed condition, upon returning to the viewing room the confederate said the same phrase in front of each participant witness : "Yup, I picked someone," in response the experimenter's question "All done?" We made this change from Study 1 because, as previously noted, we wanted to make it clear to participant-witnesses in this study that an identification decision was made, rather than leaving the decision of the co-witness open to interpretation.

After the confederate returned to the viewing room, the participant-witness went to the identification suite where a computer displayed an instructions page directing the participant to

click for the next page. As in Study 1, participants saw instructions that the culprit might not be present and there was a visible not present option. Witnesses' decision latency was measured via the online questionnaire. After making an identification decision, participants completed the same questionnaire as in Study 1. We also included an open-ended question in which participants could indicate whether there was anything about the behavior of the other witness that influenced their decision: "Was there anything about the behavior of the other witness (i.e., the other person who saw the crime and the lineup with you) that you think might have influenced your decision?"

After the study was over, participants were paid $10 AUD for their participation. A debriefing was emailed to all participants after Studies 2 and 3 were complete.

Results

Manipulation Checks

Participants (a) indicated significantly more agreement that the confederate's decision was quick in the fast condition (M = 8.19, SD = 2.02) than in the slow condition (M = 5.27, SD = 2.01), $t(198) = 10.24$, $p < .001$, $d = 1.45$, 95% CI [1.14, 1.76], and (b) provided significantly shorter estimates of how many seconds the confederate's identification took in the fast condition (M = 30.44, SD = 33.81) than in the slow condition (M = 89.20, SD = 102.22), $t(198) = 5.14$, $p < .001$, $d = 0.77$, 95% CI [0.48, 1.06].

No participant expressed suspicion about the confederate. Therefore, the analyses below include data from all 200 participants.

Witness Self-Reports

We assessed responses to the dependent measures questionnaire that was completed after the identification decision was made. Participant-witnesses in the fast co-witness condition

reported expecting their own identification decision to be significantly easier (M = 3.92, SD = 2.33) than did witnesses in the slow condition (M = 5.53, SD = 1.86), $t(198) = 5.41$, $p < .001$, d = 0.76, 95% CI [0.47, 1.05]. There were no significant differences between the slow and fast co-witness conditions on witness self-reported confidence, how easy it was to figure out which person was the culprit, and the extent to which the co-witness's decision was accurate (see Supplemental Materials Table S4).

Identification Decisions

A two-way chi-square compared the frequency of identification decisions (incorrect pick vs. correct rejection) among participant-witnesses in the two co-witness speed conditions. There was a significant effect of the speed manipulation on witness decisions, $\chi^2(1, N = 200) = 4.67$, p = .031, Φ = .15, with significantly fewer incorrect picks when the confederate witness was slow (23%) compared with fast (37%).

The breakdown for the two targets, and across targets, is shown in Table 1; the full breakdown of identification decisions is available in Table S5 of the Supplemental Materials. As in Study 1, there appeared to be a more pronounced effect of co-witness speed for the female than the male target. Again, however, a loglinear analysis indicated that the three-way association between co-witness speed, target, and identification decision was non-significant, k = 3, $LR\ \chi^2(1) = 2.80$, p = .094 (see Table S3 in the Supplemental Materials).

Analysis of witnesses' decision latencies indicated no difference in how long witnesses took to make their own identification decisions in the fast versus slow co-witness conditions, $t(198) = 0.57$, p = .57, d = 0.05, 95% CI [-0.23, 0.33].

Discussion

In this study, witnesses were paired with a confederate who definitively stated that they had identified a photo, after making a fast (10 s) or slow (4 min) identification. As in Study 1, where the identification decision of the co-witness was ambiguous, participants made more incorrect picks after their co-witness was fast rather than slow. These results confirm our observations in Study 1 that the co-witness speed cue is not too subtle to influence witness decisions nor is it deemed irrelevant to witnesses' own decisions. We address potential mechanisms for the effect of co-witness speed on identification decisions in subsequent sections.

Study 3

Study 3 was designed to test whether co-witness identification speed also affects decisions in the context of a photospread rejection. In addition, to probe how the confederate's behavior was interpreted by participants, we added an attribution questionnaire (e.g., Kelley, 1973; Weiner, 1972). As with any interpretation of another's behavior, multiple possible interpretations exist. For example, is a slow co-witness viewed as lazy or conscientious? Is a fast co-witness viewed as a skilled decision maker or as someone too unconcerned with the task to take it seriously? Such attributions are particularly constrained when there is only one opportunity to evaluate another person's behavior, as there is in this context (cf. Kelley's 'single observation,' p. 113). We viewed our attribution questions as an exploratory attempt to generate insight into how participants evaluated a slow (vs. fast) co-witness.

Based on the results of Studies 1 and 2, we expected that fast (vs. slow) co-witness decisions would affect identification rates, potentially in the form of increased compliance with the fast witness's decision. However, because a co-witness rejection is qualitatively different from a co-witness identification, we were hesitant to make a specific prediction regarding whether fast (vs. slow) co-witnesses would increase or decrease identification decisions.

Method

We conducted a power analysis using G*Power (Erdfelder et al., 1996) to estimate the required sample size to have 90% power to detect a small-to-medium effect size for categorical data in which the only manipulated variable of interest was co-witness identification speed. The recommended sample size was 145. We recruited 160 to account for attrition. We excluded data from nine participants who expressed strong suspicion during the experimental session (e.g., asking if the confederate was instructed to report on her identification decision).

Participants

As in the previous studies, participants were university students recruited on campus and paid $10 AUD for their participation. After excluding nine participants who expressed suspicion, analyses reported below contain data from $N = 151$ participants (57 male, 94 female, $M_{age} = 22.96$ years, SD = 7.01, range 18-64).

Materials

The photospreads and stimulus videos were the same as those used in Studies 1 and 2.

Procedure

We changed the recruitment method from Study 2 because participant availability from the university's online sign up portal was limited. Therefore, in Study 3 a research assistant approached participants in person in a university common area containing restaurants, study spaces, and meeting spaces. The research assistant approached individuals working or sitting alone and asked if they would like to participate in a psychology experiment for payment. The research assistant told potential participants she was running a study that required pairs of participants but that a person who signed up to complete the pair did not show up and she needed an immediate replacement.

The procedure was identical to Study 2 with three exceptions. First, in Study 3 the confederate co-witness rejected the photospread. Upon returning from her identification procedure, the confederate responded to the research assistant's question "All done?" with, "Yup, I didn't pick any of them. I said 'not there.'" Second, rather than implementing the door knock again, we ensured that the retention interval was consistent for participants in the slow and fast conditions by having the research assistant adjust how long it ostensibly took her to set up the computer for the participant's identification task (similar to Study 1).

Third, after participant-witnesses made their own identification decision, they completed a new questionnaire assessing their attributions for their co-witness's behavior. These questions were added to understand how participants explained the behavior of the co-witness (e.g., Kelley, 1973; Weiner, 1972). On this questionnaire, participant-witnesses assessed the extent to which their co-witness's behavior was caused by: high intelligence, low effort, the ease of the task, bad luck, the difficulty of the task, good luck, low intelligence, and high effort. These questions were answered on a scale from 1 (*this doesn't explain the witness's behavior at all*) to 9 (*this completely explains the witness's behavior*).

As noted above, a debriefing was emailed to all participants after Studies 2 and 3 were complete. Any participant who expressed suspicion was immediately debriefed and asked not to communicate information about the study to other people.

Results

Manipulation Checks

Participants (a) indicated significantly more agreement that the confederate's decision was quick in the fast ($M = 8.64$, $SD = 1.88$) than the slow condition ($M = 4.28$, $SD = 1.96$), $t(149) = 13.97$, $p < .001$, $d = 1.50$, 95% CI [1.14, 1.86], and (b) provided significantly shorter estimates

of how many seconds the confederate's identification took in the fast (M = 33.33, SD = 60.51) than the slow condition (M = 121.62, SD = 105.45), $t(149) = 6.30$, $p < .001$, $d = 0.91$, 95% CI [0.57, 1.24].

Witness Self-Reports

We also assessed responses to the dependent measures questionnaire that was completed after the identification decision was made. Witnesses in the fast co-witness condition reported expecting their own identification decision to be significantly easier (M = 4.07, SD = 2.27) than did witnesses in the slow condition (M = 4.87, SD = 2.15), $t(149) = 2.23$, $p = .027$, $d = 0.36$, 95% CI [0.04, 0.68]. Co-witness speed did not affect participants' assessments of their co-witness's accuracy, self-reported confidence, or reports of how easy it was to figure out which person was the culprit (see Supplemental Materials Table S6).

Identification Decisions

A two-way chi-square compared the frequency of identification decisions (incorrect pick vs. correct rejection) among participant-witnesses in the two co-witness speed conditions (fast vs. slow). It again showed a significant effect of the speed manipulation, $\chi^2(1, N = 151) = 4.29$, $p = .038$, $\Phi = .17$, with significantly fewer incorrect picks when the confederate witness was slow (30%) rather than fast (47%).

The breakdown for the two targets, and overall, is shown in Table 1, and the full breakdown of identification decisions is available in Supplemental Materials Table S7. Again, the identification patterns for each stimulus suggested a more pronounced effect for the female than the male stimulus (see Table 1). However, as in the previous studies, a loglinear analysis indicated that the three-way association between target, co-witness speed, and identification

decision was non-significant, $k = 3$, $LR\ \chi^2(1) = 2.83$, $p = .092$ (see Supplemental Materials Table S3).

Analysis of identification decision latency indicated that participants in the fast co-witness condition made significantly faster decisions ($M = 19.89$ seconds, $SD = 14.76$) than did participants in the slow co-witness condition ($M = 26.70$ seconds, $SD = 23.44$), $t(126.76) = 2.17$, $p = .032$, $d = 0.34$, 95% CI [0.02, 0.66].

Attributions for Confederate-Witness Decision Speed

In this study, we also included attribution questions to assess participants' evaluations of their co-witness on a scale from 1 (*this doesn't explain the witness's behavior at all*) to 9 (*this completely explains the witness's behavior*). There were two significant differences on the attribution questions. First, the co-witness's low effort was rated as explaining significantly more of the witness's behavior in the fast co-witness condition ($M = 4.29$, $SD = 2.15$) than in the slow co-witness condition, ($M = 3.42$, $SD = 1.91$), $t(149) = 2.64$, $p = .009$, $d = 0.42$, 95% CI [0.10, 0.74]. Second, the ease of the co-witness's task was rated as explaining significantly more of the witness's behavior in the fast co-witness condition ($M = 5.89$, $SD = 2.16$) than in the slow co-witness condition, ($M = 4.89$, $SD = 2.01$), $t(149) = 2.90$, $p = .004$, $d = 0.46$, 95% CI [0.14, 0.78]. No other attributions were significantly different between the fast and slow co-witness conditions (see Supplemental materials Table S8).

Discussion

In Study 3 the co-witness rejected the lineup after a fast or slow identification decision. As in the previous studies, co-witness identification speed was successfully manipulated with participants reporting that the slow co-witness took longer than the fast co-witness. Even though the co-witness's decision differed from the previous studies (ambiguous in Study 1 and a positive

identification in Study 2), the same results were obtained: fast (vs. slow) co-witness decisions increased incorrect picks from the target-absent photospread.

If the effects of co-witness speed are driven by basic compliance with whatever decision a fast co-witness makes (or is perceived to have made), we would have observed increased rejections in the fast (vs. slow) co-witness condition in Study 3. Instead, participants made *more* choices in the fast co-witness condition even when the confederate rejected the photospread. As with our interpretation of the Study 1 results, the explanation for the present results could be grounded in the fact that people generally assume culprits are present in identification tasks (Memon et al., 2004). Perhaps participants were less likely to conform with a fast co-witness who rejected the lineup because a fast rejection is seen as unreliable (e.g., the witness did not take their time considering all the options). Conversely, a lineup rejection made more slowly may have challenged the assumption that the target would be in the lineup.

Data from the attribution questionnaire suggest that participants attributed the fast (vs. slow) co-witness's behavior to both the ease of the task and low effort. The co-witness speed manipulation did not affect perceptions of other potential explanations for the co-witness's behavior (high intelligence, low intelligence, high effort, bad luck, good luck, difficulty of task). One interpretation of the pattern of responses to the attribution questionnaire is that participants assumed the fast co-witness expended minimal effort because the task was easy. Perceptions of the fast co-witness's task as easy are consistent with witness evaluations in Study 2 in which participants assumed their own task would be easier when the co-witness was fast (vs. slow). These ratings also fit neatly with the increased choices in Study 2 where the co-witness made a definitive identification; when participants expected an easy identification decision themselves, they might have chosen any photo that passed a relatively low threshold for matching their

memory. In Study 3, however, where the confederate rejected the photospread, the connection between these perceptions and increased choosing is less obvious. As described below, future research might manipulate attributions for co-witness behavior to examine how these impact identification decisions.

General Discussion

Co-witness identification speed was manipulated by having a confederate make a fast (10 s) or slow (4 min) decision. In three studies, fast co-witness decisions increased identifications from a target-absent photospread when the co-witness's decision was ambiguous (Study 1), when the witness claimed to have made an identification (Study 2), or when the witness rejected the photospread (Study 3). These studies demonstrate the impact of co-witness identification speed, a more subtle cue than those previously tested (e.g., misinformation regarding a culprit's appearance, Zajac & Henderson, 2009; learning about a co-witness's choice from a lineup, Levett, 2013; Skagerberg, 2007). Importantly, the current studies also demonstrate that co-witness identification speed affects incorrect picks despite implementation of many of the recommended procedural safeguards (e.g., Wells et al., 2020). For example, all participants were provided with unbiased lineup instructions, the lineup members were selected to match the culprit's description, and the lineups were administered on a computer to prevent administrator influence. In addition, in Study 1 the decision of the confederate co-witness was not revealed, mimicking conditions under which co-witnesses are prevented from discussing their decisions.

Although there was no significant interaction between the speed manipulation and target in any of the studies, it is worth re-emphasizing that the effect of a fast co-witness did appear more marked for the female than the male target. As noted earlier, the fact that the magnitude of the effect might vary across targets is unsurprising given the many possible differences between

encoding (e.g., exposure duration, target distinctiveness, salience of the target's behavior) and test stimuli (e.g., target-filler similarity, suspect-filler similarity) likely to exist in real world witnessing scenarios. Indeed, it would be surprising if co-witness speed had an identical effect in all identification procedures. Our primary goal in the current research was to determine *whether* co-witness speed affects identification rates, not to determine the likely frequency of such an effect or pinpoint the enabling conditions.

Limitations and Future Research

Although our studies provide compelling evidence that co-witness speed can sometimes affect identification decisions, they do not elucidate the underlying mechanism(s). There is no simple explanation for the effects that co-witness speed had on identification decisions across conditions in which the co-witness's decision was either ambiguous, or revealed to be a positive identification or lineup rejection.

One possibility we cannot discount is that the co-witness's decision was not clear to participants. If this was the case, participants in Studies 2 and 3 may not have consistently factored in the co-witness's decision when making their decisions. We considered asking participants to recall the decision of the confederate so as to eliminate this possibility. However, the optimal timing of such a question is unclear. If the question comes before the participant's own identification attempt, it could increase suspicion regarding the experimental manipulation. If it comes after the identification attempt, the participant's own choice could influence the response. Regardless, we think it is unlikely that participants did not grasp what decision was made when their co-witness announced it given that the experimenter prompted the comment directly in front of the witness.

Although our studies do not clarify the underlying mechanism(s) for the effect of co-witness speed on identifications, we believe that there are a number of possibilities that warrant exploration in future research. For example, it possible that our results reflect shifts in witnesses' decision criterion placement. A compelling test of a criterion shift hypothesis would be provided by manipulating target-presence along with co-witness identification speed, thereby permitting an examination of the effect of co-witness behavior on quantitative indices of response bias.

An alternative mechanism – or perhaps even a contributing factor to a criterion shift – is that identification decisions are driven by different attributions made for the fast versus slow co-witness. As noted in the Discussion for Study 3, participants in Studies 2 and 3 interpreted a fast co-witness decision as easy (and as a function of low effort in Study 3). These data suggest a productive avenue for future research on the role of attributions in eyewitness behavior, a connection that has received scant attention even though there are well documented social influences on identification responding (e.g., Baron et al., 1996; Greathouse & Kovera, 2009). One specific avenue for future research is the role of dispositional attributions (e.g., that the witness expended low effort) versus situational attributions (e.g., that the task was easy) on susceptibility to co-witness influence. Another avenue would be to explore opportunities for attributions to shift as a function of contextual information. For example, Kelley (1973) noted that people tend to be less confident in explanations for behavior to the extent that many possible explanations exist (e.g., discounting). These examples amplify the potential for attributional manipulations to be applied to identification decision scenarios in potentially fruitful ways.

Conclusion

Psychological scientists have long recognized the potential for witnesses to influence each other (e.g., Luus & Wells, 1994), hence the recommendations to separate them during

critical moments of the investigation (e.g., interviews and identification procedures, Wells et al., 2020). Based on the current research, simply separating co-witnesses for the identification procedure itself is insufficient to prevent influences on identification decisions. Indeed, even when the confederate witness's identification decision was ambiguous – as in Study 1 – a fast co-witness increased choices from a target-absent photospread. At this point, one tentative recommendation for preventing co-witness identification speed from influencing decisions is to standardize the duration of each identification procedure and advise witnesses of the standard duration.

Author Contributions

ABD and NB designed the studies with substantial input from CL. CL recruited and trained research assistants, programmed the selection of photos for the photospreads, and supervised all data collection. ABD conducted the primary analyses. CL prepared the tables. ABD drafted the manuscript with substantial input from NB and CL. All authors approved the final version for submission.

Open Practices Statement

Data for Studies 1, 2 and 3 are publicly available at the Open Science Framework: https://osf.io/6xqy7/

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Supplemental Materials

Study 1

Correlation Between Confidence and Accuracy

Witness confidence and decision accuracy were not correlated, $r(99) = .161$, $p = .108$.

Study 2

Correlation Between Confidence and Accuracy

Witness confidence and decision accuracy were significantly correlated; witnesses correctly rejecting the photospread reported higher confidence than witnesses making an incorrect pick, $r(198) = .157$, $p = .027$.

Study 3

Correlation Between Confidence and Accuracy

Witnesses correctly rejecting the photospread reported higher confidence than witnesses making an incorrect pick, $r(149) = .297$, $p < .001$.

Table S1

Study 1: Means (and Standard Deviations) for Self-report Dependent Measures as a Function of Co-witness Speed

Question	Scale	Co-witness Speed		Statistic			
		Fast (n = 50)	Slow (n = 51)	t	p	d	95% CI for d
How easy or difficult was it for you to figure out which person in the photos was the person from the video?	1 = extremely easy; 10 = extremely difficult	5.59 (1.97)	5.30 (2.32)	0.67	.50	0.13	-0.52, 0.25
To what extent do you think your partner made an accurate identification?	1 = I think it is definitely not accurate; 10 = I think it is definitely accurate	6.86 (1.73)	6.70 (1.57)	0.50	.62	0.10	-0.49, 0.29
Once your partner came back from their identification, to what extent did you think your own identification decision as going to be easy or difficult?	1 = I thought it was going to be extremely easy; 10 = I thought it was going to be extremely difficult	5.20 (2.10)	5.28 (1.85)	0.21	.83	0.04	-0.35, 0.43
Please indicate on the scale below how confident you are that your decision was correct.	0% sure your decision was correct; 100% sure your decision was correct	66.80 (20.24)	69.61 (20.68)	0.69	.49	0.14	-0.53, 0.25

Table S2

Study 1: Identification Decision Patterns (Ns, %s, & 95% CIs) in the Slow and Fast Co-witness Identification Decision Conditions, Shown Separately for the Male and Female Targets

	Co-witness Speed		
Identification Patterns	Fast	Slow	Overall
Male Photospread	*n* = 26	*n* = 25	*n* = 51
Highest-similarity Filler Pick	0	1	1
%	0	4.00	1.96
95% CI	-	-	-
Other Filler Pick	11	8	19
%	42.31	32.00	37.25
95% CI	[21.40, 59.38]	[11.71, 48.29]	[23.00, 49.54]
Photospread Rejection	15	16	31
%	57.69	64.00	60.78
95% CI	[36.78, 74.76]	[43.18, 80.82]	[46.40, 73.20]
Female Photospread	*n* = 25	*n* = 25	*n* = 50
Highest-similarity Filler Pick	6	3	9
%	24.00	12.00	18.00
95% CI	[5.26, 38.74]	-	[6.35, 27.65]
Other Filler Pick	8	2	10
%	32.00	8.00	20.00
95% CI	[11.71, 48.29]	-	[7.91, 30.09]
Photospread Rejection	11	20	31
%	44.00	80.00	62.00
95% CI	[22.54, 61.46]	[62.32, 93.68]	[47.55, 74.45]
Across Stimulus Photospreads	*n* = 51	*n* = 50	*N* = 101
Highest-similarity Filler Pick	6	4	10
%	11.76	8	9.90
95% CI	[1.94, 19.62]	-	[3.58, 15.23]
Other Filler Pick	19	10	29

%	37.25	20.00	28.71
95% CI	[23.00, 49.54]	[7.91, 30.09]	[19.39, 37.04]
Photospread Rejection	26	36	62
%	50.98	72.00	61.39
95% CI	[36.28, 67.72]	[58.55, 83.45]	[51.40, 70.39]

Note. 95% CIs not included when values span 0

Table S3

Studies 1–3: Results from the Loglinear Analyses Testing the Co-Witness Speed × Target Interaction on Identification Decisions

	Study 1	Study 2	Study 3
Co-witness Speed × Target	$k = 3$, $LR\ \chi^2(1) = 2.55$, $p = .110$	$k = 3$, $LR\ \chi^2(1) = 2.80$, $p = .094$	$k = 3$, $LR\ \chi^2(1) = 2.83$, $p = .092$
Co-witness speed + Target	$k = 2$, $LR\ \chi^2(4) = 7.33$, $p = .120$	$k = 2$, $LR\ \chi^2(4) = 7.89$, $p = .096$	$k = 2$, $LR\ \chi^2(4) = 8.45$, $p = .076$
Co-witness Speed	Partial $\chi^2(1) = 4.75$, $p = .029$	Partial $\chi^2(1) = 4.71$, $p = .030$	Partial $\chi^2(1) = 5.02$, $p = .025$
Target	Partial $\chi^2(1) = 0.01$, $p = .942$	Partial $\chi^2(1) = 0.01$, $p = .924$	Partial $\chi^2(1) = 0.59$, $p = .443$

Table S4

Study 2: Means (and Standard Deviations) for Self-report Dependent Measures as a Function of Co-witness Speed

Question	Scale	Co-witness Speed		Statistic			
		Fast (*n* = 100)	Slow (*n* = 100)	*t*	*p*	*d*	95% CI for *d*
To what extent do you think your partner made an accurate identification?	1 = I think it is definitely not accurate; 10 = I think it is definitely accurate	6.48 (1.61)	6.50 (1.51)	0.09	.93	0.01	-0.29, 0.26
How easy or difficult was it for you to figure out which person in the photos was the person from the video?	1 = extremely easy; 10 = extremely difficult	5.60 (2.15)	5.84 (1.90)	0.84	.40	0.12	-0.40, 0.16
Please indicate on the scale below how confident you are that your decision was correct.	0% sure your decision was correct; 100% sure your decision was correct	66.90 (19.73)	66.20 (21.21)	0.24	.81	0.03	-0.24, 0.31

Table S5

Study 2: Identification Decision Patterns (Ns, %s, & 95% CIs) in the Slow and Fast Co-witness Identification Decision Conditions, Shown Separately for the Male and Female Targets

	Co-witness Speed		
Identification Patterns	Fast	Slow	Overall
Male Photospread	*n* = 50	*n* = 50	*n* = 100
Highest-similarity Filler Pick	1	0	1
%	2.00	0	1.00
95% CI	-	-	-
Other Filler Pick	16	15	31
%	32.00	30.00	31.00
95% CI	[18.07, 43.93]	[16.30, 41.70]	[21.44, 39.56]
Photospread Rejection	33	35	68
%	66.00	70.00	68.00
95% CI	[51.87, 78.13]	[56.30, 81.70]	[58.36, 76.64]
Female Photospread	*n* = 50	*n* = 50	*n* = 100
Highest-similarity Filler Pick	7	2	9
%	14.00	4.00	9.00
95% CI	[3.38, 22.62]	-	[0.07, 15.93]
Other Filler Pick	13	6	19
%	26.00	12.00	19.00
95% CI	[12.84, 37.16]	[1.99, 20.01]	[7.13, 28.87]
Photospread Rejection	30	42	72
%	60.00	84.00	72.00
95% CI	[45.42, 72.58]	[72.84, 93.16]	[58.55, 83.45]
Across Stimulus Photospreads	*n* = 100	*n* = 100	*N* = 200
Highest-similarity Filler Pick	8	2	10
%	8.00	2.00	5.00
95% CI	[2.18, 12.82]	-	[1.73, 7.77]
Other Filler Pick	29	21	50

%	29.00	21.00	25.00
95% CI	[19.61, 37.39]	[12.52, 28.48]	[18.75, 30.75]
Photospread Rejection	63	77	140
%	63.00	77.00	70.00
95% CI	[53.04, 71.96]	[68.25, 84.75]	[63.40, 76.10]

Note: 95% CIs not included when values span 0

Table S6

Study 3: Means (and Standard Deviations) for Self-report Dependent Measures as a Function of Co-witness Speed

Question	Scale	Co-witness Speed		Statistic			
		Fast (*n* = 75)	Slow (*n* = 76)	*t*	*p*	*d*	95% CI for *d*
How easy or difficult was it for you to figure out which person in the photos was the person from the video?	1 = extremely easy; 10 = extremely difficult	5.65 (2.13)	5.66 (2.40)	0.01	.99	0.004	-0.32, 0.32
To what extent do you think your partner made an accurate identification?	1 = I think it is definitely not accurate; 10 = I think it is definitely accurate	6.64 (1.75)	6.13 (1.65)	1.84	.07	0.30	-0.62, 0.02
Please indicate on the scale below how confident you are that your decision was correct.	0% sure your decision was correct; 100% sure your decision was correct	70.13 (17.36)	68.68 (20.74)	0.47	.64	0.08	-0.40, 0.24

Table S7

Study 3: Identification Decision Patterns (Ns, %s, & 95% CIs) in the Slow and Fast Co-witness Identification Decision Conditions, Shown Separately for the Male and Female Targets

	Co-witness Speed		
Identification Patterns	Fast	Slow	Overall
Male Photospread	*n* = 38	*n* = 38	*n* = 76
Highest-similarity Filler Pick	2	2	4
%	5.26	5.26	5.26
95% CI	-	-	-
Other Filler Pick	15	13	28
%	39.47	34.21	36.84
95% CI	[22.61, 53.70]	[17.81, 47.98]	[25.34, 47.03]
Photospread Rejection	21	23	44
%	55.26	60.53	57.89
95% CI	[38.13, 69.75]	[43.67, 74.76]	[46.13, 68.33]
Female Photospread	*n* = 37	*n* = 38	*n* = 75
Highest-similarity Filler Pick	4	2	6
%	10.81	5.26	8.00
95% CI	-	-	[1.19, 13.47]
Other Filler Pick	15	6	21
%	40.54	15.79	28.00
95% CI	[23.37, 55.01]	[2.88, 26.07]	[17.17, 37.50]
Photospread Rejection	18	30	48
%	48.65	78.95	64.00
95% CI	[31.19, 63.40]	[64.67, 90.60]	[52.47, 74.20]
Across Stimulus Photospreads	*n* = 75	*n* = 76	*N* = 151
Highest-similarity Filler Pick	6	4	10

%	8.00	5.26	6.62
95% CI	[1.19, 13.47]	-	[2.32, 10.25]
Other Filler Pick	30	19	49
%	40.00	25.00	32.45
95% CI	[28.25, 50.42]	[14.61, 34.08]	[24.65, 39.59]
Photospread Rejection	39	53	92
%	52.00	69.74	60.93
95% CI	[40.03, 62.64]	[58.75, 79.41]	[52.82, 68.38]

Note: 95% CIs not included when values span 0

Table S8

Study 3. Means (and Standard Deviations) for Responses to Attribution Questions as a Function of Co-witness Speed

Attribution Item	Co-witness Speed		Statistic			
	Fast (n = 75)	Slow (n = 76)	t	p	d	95% CI for d
High Intelligence	4.55 (2.24)	4.47 (2.32)	0.22	.83	0.04	-0.36, 0.28
Bad Luck	2.39 (1.74)	2.80 (1.93)	1.39	.17	0.22	-0.10, 0.54
Difficulty of the Task	4.29 (2.27)	4.47 (2.19)	0.50	.62	0.08	-0.24, 0.40
High effort on the Task	4.56 (2.21)	4.92 (2.15)	1.02	.36	0.17	-.015, 0.49
Good Luck	3.03 (2.18)	3.08 (1.87)	0.16	.88	0.03	-0.29, 0.34
Low Intelligence	2.49 (1.92)	2.66 (1.75)	0.55	.58	0.09	-0.22, 0.41

Note. All items were answered on a scale from 1 (*this doesn't explain the witness's behavior at all*) to 9 (*this completely explains the witness's behavior*).