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Eyewitness Identification: Retrospective Self-Awareness and the Accuracy–Confidence Correlation

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Research has shown that despite people's intuitive beliefs to the contrary, there is only a weak and inconsistent correlation between eyewitness identification accuracy and confidence. Four experiments were conducted in order to test the hypothesis that retrospective self-awareness (RSA) would increase this correlation. In all studies, subjects watched a staged crime; immediately afterwards, they were asked to identify the culprit from a photospread and to indicate their confidence in that judgment. In an RSA condition, subjects also viewed a videotape of their performance before rating their confidence. Collectively, the results showed an average correlation of .04 in the control groups and .48 in the RSA condition. In addition, the data tentatively supported a self-perception hypothesis that this manipulation is effective because it alerts subjects to valid but previously unobserved aspects of their own overt behavior (e.g., response latency). These findings are discussed for both their theoretical and forensic implications.

One of the most intriguing issues in the psychology of eyewitness testimony concerns the correlation between identification accuracy and self-confidence. To date, various reviewers of the empirical literature have consistently reached the same fundamental conclusion: that although there are exceptions, the correlation is weak and nonsignificant. Put another way, it appears that as a general rule, eyewitnesses who accurately and inaccurately identify a suspect from a photospread or lineup express equivalent levels of certainty in their respective judgments (Deffenbacher, 1980; Leippe, 1980; Wells & Murray, 1983, 1984).

This phenomenon is theoretically quite interesting, as it appears to represent a special instance of the generally tenuous relation between subjective self-reports and behavior, as noted by Nisbett and Wilson (1977). From a forensic standpoint, its importance is underscored by the facts that (a) the U.S. Supreme Court has cited self-confidence as one of five factors to be considered in assessing the competence and hence the admissibility of eyewitness identifiction evidence (Neil v. Biggers, 1972), and (b) the citizenry from which jurors are selected commonly believes that eyewitness confidence is a valid sign of credibility (Brigham & Bothwell, 1983; Deffenbacher & Loftus, 1982; Wells, Lindsay, & Ferguson, 1979; Yarmey & Jones, 1983).

Why are eyewitness accuracy and confidence not positively correlated? Several explanations have been offered (for a review, see Wells & Murray, 1984). One interesting possibility was suggested by Leippe (1980), who viewed eyewitness confidence estimates within the framework of Bem's (1972) self-perception theory. Specifically, Leippe argued that eyewitnesses must often infer their own levels of certainty by observing their identification and the context within which it was made. As he put it, "Eyewitnesses should report a positive sense of confidence in memory after they make an identification, as if they were saying to themselves, 'I really must be sure that was the person, since I was willing to choose that person' " (p. 269). Moreover, because the overt act of choosing a suspect and the circumstances surrounding it are the same for accurate and inaccurate witnesses, no differences in confidence are expected. This explanation, of

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course, rests on the assumption that eyewitnesses do not have direct, intimate knowledge about their own memory processes.[1]

Following Leippe's (1980) suggestion, the present research was guided by the supposition that the accuracy–confidence correlation in eyewitness testimony is a problem in self-perception and subjective self-report. Nisbett and Wilson (1977) examined the implications of indirect self-knowledge for the accuracy of self-reports concerning mental processes in general. They reviewed and conducted several experiments that collectively demonstrated that people often cannot report the actual causes of their own behavior. As such, Nisbett and Wilson concluded that "any introspective access that may exist is not sufficient to produce generally reliable reports" (p. 233). One possible reason for this inaccuracy of self-report is suggested by self-awareness theory (Duval & Wicklund, 1972; Wicklund, 1975): that people are characteristically nonintrospective, directing their attention primarily to the environment. In testing this theory, Pryor, Gibbons, Wicklund, Fazio, and Hood (1977) thus found that the correspondence between self-ratings of sociability and actual social behavior was increased when subjects' degree of concurrent self-focus was enhanced by the presence of a mirror. From an individual-differences perspective, Scheier, Buss, and Buss (1978) and Turner, Scheier, Carver, and Ickes (1978) reported higher correlations between self-reports and behavior among subjects who were high rather than low in their dispositional levels of self-consciousness. Indeed, Carver and Scheier (1981) argued that as a general rule, focusing attention on the self produces more valid reports about mental states. Gibbons and Gaeddert (1984) extended this argument by speculating that it might also produce a greater cognizance of the thought processes accompanying behavior.

One interesting technique that can be used to encourage self-observation (and hence the accuracy of self-report) is videotape feedback; that is, subjects may be videotaped while engaging in a problem-related behavior, and then shown the tapes before evaluating their own performance. According to Pryor (1980), such a procedure induces a state of *retrospective self-awareness* that has been shown to promote in people a realistic understanding of their own behavior in both psychotherapy and classroom settings. Walz and Johnston (1963), for example, found that after they viewed videotapes of their own counselor training sessions, counselor candidates' self-evaluations corresponded more closely with their supervisors' appraisals of their performance than without such self-exposure. The effectiveness of this manipulation makes conceptual sense for a variety of interrelated reasons: It forces subjects to become introspective and self-focused, perhaps serving as a cue with which they can remember their task-related thoughts, and it provides them with an opportunity to observe the raw material (i.e., their own overt behavior) for the self-perception processes suggested by Bem (1972).

The program of research reported in this article was designed to test the hypothesis that self-focused attention, primarily the state of retrospective self-awareness (RSA), increases the accuracy–confidence correlation among eyewitnesses. In all of the present studies, subjects watched a staged crime, immediately after which they were asked to identify the suspect from a photospread and to indicate their degree of confidence in the accuracy of that judgment. In an RSA condition, subjects were recorded as they made their identifications. They then viewed the videotape of their performance before rating their self-confidence. In the standard (control) condition, the latter manipulation was not included in the procedure.

Experiment 1

A close look at the RSA procedure just described suggested that it differs from the control group along three potentially meaningful dimensions: exposure to the videotape feedback, the presence of a camera during the identification, and the intrusion of a brief temporal delay between identification and reports of self-confidence. In order to isolate the possible effects of each of these variables, two additional groups were incorporated into the design of an initial experiment. In one, a camera was directed at the subjects throughout the iden-

[1] This position has a distinguished history of advocacy from such notable theorists as James (1890), Ryle (1949), and Neisser (1967).

tification phase of the session, but no videotape feedback was provided. Because the camera is a stimulus that induces a state of self-awareness that, in turn, is sufficient to increase the behavior–self-report correspondence (e.g., Pryor et al., 1977), it was expected that eyewitness accuracy and confidence might be significantly correlated in this no-feedback condition. In the second group, subjects performed in the absence of either a camera or videotape feedback; as was necessary in the RSA procedure, however, a 5-min delay was interposed between the identifications and confidence ratings. Because it has been suggested that the accuracy–confidence relation might somehow be mediated by the mere passage of time (Leippe, 1980; Wells & Murray, 1984), this variation was included, though no specific hypothesis on the matter was advanced.

Method

Subjects

Forty-eight college freshmen (24 male, 24 female) were recruited on a volunteer basis to participate individually in the experiment. They were randomly assigned by two female experimenters to one of four conditions (n = 12).

Stimulus Event

The criminal event to which subjects were witness was an act of vandalism and burglary that was staged and presented on videotape. The scene opened with a survey of the physical setting, the entrance hall of a campus dormitory. Two college-aged women and a man entered the room, purchased a soft drink from a vending machine located adjacent to a doorway, and walked away. Two different men then entered the room, one of whom kicked open the machine and pilfered the coin box from it. The original group returned to intervene, a scuffle ensued, and the thief and his partner fled. The entire event lasted for approximately 2 min and was shown on a 19-in. color monitor. In preliminary testing with the tape and a photospread, 14 out of 35 observers (40%) accurately identified the individual who stole the coin box.

Procedure

Subjects were run individually through the sessions, which lasted for about 15 min. In all cases, they watched the videotape and were then seated on the witness stand in a mock courtroom. After answering some preliminary questions ("Could you tell me your name, please," "Did you just witness a crime?", "Briefly, could you tell me what actually happened?", and "Is there anything else?"), subjects were presented with the pretested photospread that consisted of six black-and-white portrait photographs labeled *a* through *f* and mounted on an 11 × 14 in. sheet of cardboard. In all cases, a picture of the culprit appeared in slot *f*. Subjects were then instructed as follows:

> What I would like you to do now is try to identify the thief, the one who actually broke into the machine and stole the money, in the videotape you just saw. The thief may or may not be in this group of pictures. Look through them. If you think he is in there, point to the picture and state the letter [from *a* through *f*] that corresponds to it. Okay?

Subjects were thus requested to decide whether the culprit was present and, if so, to make an identification. Their response latencies (from presentation of the photospread to the decision) were recorded with a stopwatch that was concealed by the experimenter.[2] Subjects then rated their confidence in the accuracy of their identifications on a 10-point scale (1 = *not at all confident*, 10 = *very confident*). Lastly, subjects were partly debriefed, having been informed about all aspects of their experience except our interest in the relation between accuracy and confidence.

Four variations of the foregoing procedure were used:

1. In the *standard* group, as described earlier, no videotape equipment was present in the courtroom, no feedback was provided, and confidence estimates were elicited immediately after the identifications.
2. In a *time-delay* group, the procedure was the same except that subjects provided confidence estimates 5 min after making their identifications, as the experimenter excused herself in order to "run off some copies of a questionnaire."
3. In a *camera-presence* group, a video camera was stationed on a tripod and directed at the witness stand. Subjects were told that their testimony would be recorded for subsequent analysis. The confidence measure was elicited from them immediately after identification and without videotaped feedback.
4. In the *RSA* group, subjects made their identifications in front of a camera. They were then told that they could watch themselves on the TV monitor before continuing in the session. The experimenter then rewound and played the tape for subjects, after which the confidence data were collected.

Results and Discussion

A total of 43 of the 48 subjects (89.6%) made an identification, right or wrong, from the photospread. The four groups did not significantly differ in their rates of choosing (p > .50). Among all subjects in the sample, 26 accurately selected the culprit, yielding an accuracy rate of 54.2% overall and 60.1% within the subsample of subjects who made an identification. The standard, time-delay, camera-present, and RSA groups did not significantly

[2] These data were collected in order to investigate the possibility, suggested by self-awareness theory, that subjects in the two camera conditions might be motivated to escape the experimental situation by making a hasty identification.

differ in the accuracy of their identifications (ps = .50, .33, .58, and .75, respectively), χ^2 (3, N = 48) = 4.01, $p < .30$, their self-confidence ratings (Ms = 6.42, 5.83, 5.50, and 7.92, respectively), $F(3, 44) < 1$, or response latencies (Ms = 13.43, 13.45, 9.30, and 15.58 s, respectively), $F(3, 44) = 1.46$, $p < .25$.

However, a clear pattern emerged from the correlational results. Across groups, identification accuracy and confidence ratings were significantly correlated ($r = .58$, $p < .001$; n = 48).[3] When broken down by condition, the accuracy–confidence correlation was highly significant in the RSA group ($r = .84$, $p < .001$) but not in the standard, time-delay, and camera-present groups (rs = .10, .16, and −.04, respectively). In short, subjects who actually watched a videotape of themselves making their identification decisions provided more predictive confidence estimates than did all the others.

Two possible explanations for this effect come to mind. One is that retrospective exposure to one's own actions serves to alert the subject to informative but previously unobserved mannerisms or variations in his or her own overt behavior (e.g., response latency, comments made to the experimenter, facial expression). This view thus implies that videotape feedback provides the acting individual with information otherwise available to an outside observer.[4] A second possibility is that videotape feedback enables subjects to access or retrieve the thought processes that accompanied their original performance. This view implies that actors are privileged with private self-knowledge that, although typically inaccessible to awareness, can be "primed" by the experience of retrospective self-exposure.

The results of this study do not clearly favor either of these explanations. The first possibility did receive anecdotal support in the utterances of several RSA subjects who quite spontaneously conveyed their reactions to the experimenter during their self-observation period. For example, one apparently surprised subject commented, "Look at the way I hesitated. It took me forever to choose." Similarly, another subject observed that "I took no time at all to point him out. I'm positive that it was him." Might these comments suggest that videotaped self-exposure was successful because it provided subjects with an informative but previously nonsalient cue in the form of response latency? The correlational results provided tentative, though only weak, support for this hypothesis. Specifically, for subjects in the RSA group, response latency was negatively, though nonsignificantly, correlated to both identification accuracy ($r = -.46$, $p < .15$; across all groups, $r = -.37$, $p < .01$) and self-confidence ($r = -.31$, $p < .20$; across all groups, $r = -.20$, $p < .10$). To some extent, then, the longer it took subjects to make an identification, the less confident they were, and the less likely they were to have been accurate.

Experiment 2

Experiment 1 provided a preliminary demonstration of a provocative phenomenon: that the state of retrospective self-awareness increases the correlation between eyewitness identification accuracy and self-confidence. At this point, however, the stability of this result has not been established and the process through which it was obtained is not well understood. A follow-up experiment was therefore conducted in an attempt to achieve these objectives.

At the very least, this study was designed to replicate the retrospective self-awareness effect with a larger sample of subjects and a different criminal event. In addition, two aspects of the process-related question were addressed. First, what specific component of the RSA manipulation was responsible for its apparent effectiveness? The absence of a comparable effect in the camera-present condition suggests that the RSA finding is attributable to videotaped feedback per se and not to the fact that self-awareness might have been induced during the identification task. Still, it is theoretically possible that although the mere presence of a camera is not sufficient, it is a necessary component of the RSA effect. In order to address this issue, all subject-witnesses, RSA and control group alike, were videotaped unobtrusively

[3] All rs involving identification accuracy were calculated as point-biserial correlations.

[4] This hypothesis does not necessarily mean an increase in the accuracy of self-report. If the behavioral cues observed on the videotape are truly diagnostic of performance, then actors who are retrospectively self-aware, like observers, should be more accurate than actors who are not self-aware. If not, then no such prediction would follow.

through a camera that was built into the ceiling of the mock courtroom. In this way, RSA was manipulated without the threat of a previously induced state of self-awareness.

The second process question toward which this next experiment was directed is the one introduced earlier. Does retrospective self-exposure work because it serves to alert the subject to informative but previously unobserved nuances of his or her overt behavior (a self-perception hypothesis), or does it work because it enables the subject, perhaps by reliving the experience, to access and retrieve the thought processes that accompanied his or her original performance (a retrieval-cue hypothesis)? One interesting and operationally definable way to distinguish these alternatives is to look at observers' perceptions of subject-witnesses' self-confidence. The self-perception hypothesis suggests that videotaped feedback provides the acting individual with behavioral information already available to an observer; accordingly, it would lead to the prediction that an independent group of subjects who watch the videotaped identifications would view the accurate eyewitnesses as more self-confident than their inaccurate counterparts. In contrast, the retrieval-cue hypothesis, because it is based on the idea that the RSA manipulation provides the subject-witness with a reminder or cue that facilitates access to privileged information (i.e., his or her own mental processes), would predict that independent observers would be unable to make such differential judgments of self-confidence. In order to test these contrasting predictions, a yoked actor-observer paradigm was employed.

Method

Subjects

Thirty-three introductory psychology students, participating as eyewitnesses, were randomly assigned to either the RSA condition or the control group (*ns* = 16 and 17, respectively). After their data were collected, an additional 30 subjects were recruited as observers, and each was randomly assigned to watch the videotaped identification of a single witness (*ns* = 16 and 14, respectively).[5]

Stimulus Event

As before, a videotape of a staged crime was used in this research. This scene opened in a small, private library, where three college students, one male and two female, were sitting around a circular table, exchanging conversation over open books. After approximately 20 s, two young men entered the room and surveyed the situation while pretending to select and read through books on the shelf. One of the culprits then menacingly poked through the books placed on the table, knocked over a desk lamp, and pushed the male student. At that point, a fight broke out, the two men assaulted the student, the one who initiated the attack stole his wallet, and the culprits fled. The entire event lasted for approximately 1 min. Previous use of this event and a corresponding photospread yielded a 53% rate of accurate identification (Kassin, Hyzy, & Morris, 1984).

Procedure

Actors. On arriving at the mock courtroom, subjects watched the staged crime, after which they were seated on the witness stand and briefly questioned about their observations. At that point, the experimenter, a female student, excused herself and went to a control room, where she turned on a videotape recorder and a camera that was hidden in the courtroom ceiling and focused on the witness stand. The experimenter returned with a photospread consisting of six black-and-white photographs labeled *a* through *f* and mounted on an 11 × 14 in. sheet of cardboard (a picture of the culprit appeared in Position *b*). As in Experiment 1, subjects were told that the assailant, the one who physically attacked the male victim and stole his wallet, might or might not be represented in the array of pictures. If they believed he was, they were to indicate their selection by pointing to the picture and stating the letter that corresponded to it. Because all sessions were videotaped, response latencies were recorded at a later time.

Once an identification decision was made, the experimenter excused herself again, said she would return shortly to ask a couple of more questions, and went to the control room to turn off the power on the video camera and recorder. When she returned, subjects in the control group were asked to provide their confidence ratings on the 10-point scale described earlier. With subjects in the RSA condition,

[5] In three eyewitness sessions, the audio portion of the videotape malfunctioned. As such, although their data were available for analysis, yielding the *n* of 33 actors, they could not be assigned to observers; this yielded the smaller *n* of 30. Also, after each of the observer sessions, subjects were asked if they knew the witness appearing on tape. Four of them did, and so were excluded from the analysis and replaced by other subjects.

the experimenter returned with the tape of their identification, told them they could watch themselves before continuing in the session, and played the tape for them before eliciting their self-confidence ratings.

Observers. When all the eyewitness data were collected, a sample of students was recruited to participate as observers. These sessions were conducted on an individual basis. On arriving at the laboratory, subject-observers were told that the experimenters had shown a group of students a videotape of a crime in which one individual assaulted another, presented them with a set of six photographs, instructed them that a picture of the assailant may or may not have been among them, and asked for an identification. Observers were then told that "What I would like you to do is watch a videotape of a witness looking through the photographs and making an identification. Then I will ask you some questions." The tape was then shown and subjects were immediately asked to "tell me how confident you think the witness was about his or her own identification. Specifically, on a 10-point scale, where 1 means 'not at all confident' and a 10 means 'very confident,' I want you to try to judge how confident the witness would say he or she was. Okay?" After making these ratings, subjects were then asked to predict whether their witness was correct (yes or no) in his or her identification decision. This measure was obtained in order to assess, via correlational evidence, observers' intuitive beliefs about the relation between identification accuracy and confidence.

Results and Discussion

Of the 33 witnesses, 26 (78.8%) made an identification, right or wrong, from the photospread. Of these, 18 selected the assailant, yielding a 54.5% accuracy rate overall (69.2% among subjects who made a selection). The RSA and control groups did not differ on either measure (both $ps > .50$). Likewise, t tests revealed no differences in either their mean levels of confidence (4.25 and 4.00, respectively) or their response latency (27.75 and 24.65, respectively; both $ps > .50$).

Overall, identification accuracy and witnesses' confidence scores were not significantly correlated ($r = .25$, $p < .10$; $n = 33$). Table 1 shows, however, that when the scores were broken down by condition, a significant correlation appeared under RSA ($r = .47$, $p < .05$; $n = 16$) but not in the control group ($r = .05$, $p < .50$; $n = 17$). This finding thus replicated the main result of Experiment 1. In order to test the relative merits of the self-perception and retrieval-cue explanations described earlier, a parallel analysis was conducted between actors' identification performance and their yoked observers' estimates of their confidence. As it turned out, the correlation was nearly identical to that obtained for the eyewitnesses themselves ($r = .24$, $p < .10$; $n = 30$). This weak but positive relation held regardless of whether the observers had been assigned to RSA or control subjects ($rs = .24$ and .20, respectively, both $ps < .25$).

Table 1
Correlations for Actors and Observers in the RSA and Control Groups of Experiment 2

Subject category	Correlations		
	A–C	A–L	C–L
RSA condition			
Actors	.47*	−.17	.06
Observers	.24	—	−.55*
Control condition			
Actors	.05	−.14	−.69**
Observers	.20	—	−.57*

Note. RSA = retrospective self-awareness; A = identification accuracy, L = response latency, and C = confidence ratings.
* $p < .05$. ** $p < .01$.

Response latency played an interesting role in these data. As in the first experiment, identification accuracy and response time were somewhat negatively correlated ($r = -.16$, $p < .20$; $n = 33$). It can be seen in Table 1 that this was true in both the RSA and control groups. In looking at the extent to which this cue was predictive of confidence ratings, it was found that these variables were highly correlated among control-group witnesses ($r = -.55$, $p < .02$) and all observers (control $r = -.57$, $p < .05$; RSA $r = -.69$, $p < .01$). Only the RSA witnesses appeared not to use latency information in their confidence judgments ($r = .06$, $p < .50$). Lastly, the relation between observers' predictions about eyewitness identification accuracy and their perceptions of self-confidence was highly significant ($r = .72$, $p < .001$). This

finding suggests that people naturally operate on the assumption that eyewitness confidence is a valid predictor of identification accuracy (see also Brigham & Bothwell, 1983; Deffenbacher & Loftus, 1982; Wells et al., 1979; Yarmey & Jones, 1983).

This study replicated the major result obtained in Experiment 1, as subject-witnesses who watched a videotape of their own performance during the identification task exhibited a significant correlation between accuracy and self-confidence. This relation was not as strong as it was previously, perhaps because of the increase in sample size, the absence of a camera during the identification task, or the use of a more violent event than in the first study, a condition that could attenuate the link between accuracy and confidence (Clifford & Hollin, 1981). These results also provide a clearer and somewhat surprising picture of the role played by response latency cues in the confidence judgment process. As before, the tendency for accurate identifications to be associated with shorter response times was statistically nonsignificant. And yet, control-group actors and all observers relied heavily on this cue in their confidence ratings. Only RSA witnesses were apparently not misled as such.

Why, then, does retrospective self-awareness produce an increase in the correspondence between accuracy and confidence? On the basis of the first study, a self-perception hypothesis was suggested—that perhaps videotaped self-exposure alerted witnesses to previously unobserved aspects of their own overt behavior. The results of Experiment 2, however, provide tentative evidence against this explanation. First, with specific regard to response time, it turned out that, if anything, the RSA manipulation succeeded in diverting actors away from this nondiagnostic piece of information. Second, and more generally, independent observers should, according to the self-perception hypothesis, be able to show the RSA effect. In fact, they did not.

Experiment 3

An important phenomenon in the absence of an adequate explanation having thus been established, a third study was conducted with two specific goals in mind. First, it was designed to investigate the role of individual differences in the degree to which subjects' confidence estimates are predictive of their performance. Brown, Deffenbacher, and Sturgill (1977) showed subjects several pictures of faces, measured identification accuracy and confidence for each, and found high within-subject correlations. This result suggests that expressions of high and low confidence may reflect a stable characteristic of eyewitnesses. To this point, however, the literature has not identified any person variables that are significantly related to tendencies toward accuracy, overconfidence (which appears to be the most common response; see Koriat, Lichtenstein, & Fischoff, 1980), or underconfidence. In a recent study, for example, Hosch, Leippe, Marchioni, and Cooper (1984) administered Snyder's (1974) Self-Monitoring Scale to their subject-witnesses and found that it did not moderate the accuracy–confidence relation. Yet the results of Experiments 1 and 2 suggest that perhaps a measure of dispositional self-focus would be worth pursuing. Accordingly, Fenigstein, Scheier, and Buss's (1975) Self-Consciousness Scale (SCS) was used. This 23-item questionnaire is composed of three factors: private self-consciousness, public self-consciousness, and social anxiety (for extensive descriptions and supporting psychometric data, see Buss, 1980; Carver & Glass, 1976; Turner et al., 1978).

Interestingly, the private and public dimensions of self-awareness are closely analogous to the retrieval-cue and self-perception explanations of the RSA effect, respectively. People who score high in private self-consciousness tend to be cognizant of their own inner thoughts, motives, and feelings, and characteristically, even in the absence of retrospective self-exposure, they attempt to decipher their own cognitive processes (e.g., "I'm aware of the way my mind works when I work through a problem"). In contrast, people who are high on the public aspect of self-consciousness are more cognizant of themselves as social objects and how they appear to others, and they habitually monitor their own overt behavior (e.g., "I'm usually aware of my appearance"). In short, it might be suggested that individual differences along these dimensions in the accuracy–confidence relation could shed light on

the relative merits of the two proposed explanations of the RSA effect.

The second objective of the following experiment was to test more directly the retrieval-cue hypothesis. Specifically, a group of subjects was asked to reconstruct and describe the thoughts that accompanied their decision-making process before answering the confidence question. Some of these subjects were also placed in the RSA situation, so they narrated as they viewed the videotape of their performance. If it turns out that the retrospective self-awareness experience is effective because (a) it facilitates the retrieval of this raw material, increasing its salience and availability for recall, and (b) this information provides valid insight into the certainty with which a decision was made, then we would expect that this narration, or "retrospective verbalization," procedure (see Ericsson & Simon, 1980) would increase even further the correlation between accuracy and confidence.

Method

Seventy-five undergraduates participated as eyewitnesses; 50 were randomly assigned to either the RSA or control group, and the remaining 25 were placed in a narration condition and analyzed separately (of these, 12 were randomly assigned to a control group, whereas 13 also experienced the RSA manipulation). In addition, after all the data were collected, subjects were categorized as high or low on both public and private self-consciousness on the basis of median splits on their SCS subscores (*Mdn*s = 17.5 and 24.5, respectively).

The procedure and materials (i.e., the crime tape and photospread) used in this study were identical to those used in Experiment 2, except for the presession administration of Fenigstein et al.'s (1975) SCS and the inclusion of a narration manipulation for a separate group of subjects. Specifically, one subgroup was instructed, immediately before the assessment of their confidence, to

> try to remember and describe what you were thinking before, when you looked through the photographs and made your identification decision. Okay? Remember—try to reconstruct, as best as you can, what you were thinking *at the time.*

Narration subjects who were also exposed to the RSA experience were similarly told, as part of their prevideotape instruction, that

> while you are watching the tape, I'd like you to try to remember and describe what you were thinking when you looked through the photographs and made your decision. Remember—try to reconstruct, as best as you can, what you were thinking *as you watch the tape,* not afterwards.[6]

These verbal protocols were recorded on audiotape for subsequent analysis.

Results and Discussion

Thirty-nine of the 50 nonnarration subjects (78%) made an identification from the array; 27 correctly identified the assailant, yielding an accuracy rate of 54% overall and 69.2% within the subsample of subjects who made a selection. No significant differences appeared as a function of condition (RSA $p = .60$, control $p = .48$), public self-consciousness (high $p = .52$, low $p = .57$), or private self-consciousness (high $p = .54$, low $p = .50$; all chi-squares < 1).

In order to assess separately the main effects for public and private self-consciousness and their respective interactions with the RSA manipulation, all the data were analyzed twice. Results indicated that no significant effects appeared on either ratings of confidence ($M = 4.28$) or response latency ($M = 25.72$), though there was a tendency toward higher confidence scores among subjects who were low rather than high in public aspects of self-consciousness (marginal *M*s = 4.83 and 3.77, respectively), $F(1, 46) = 2.63$, $p < .12$, especially in the RSA condition (cell *M*s = 5.67 and 3.69, respectively), interaction $F(1, 46) = 1.97$, $p < .20$.

Across groups, identification accuracy was not significantly associated with either confidence ($r = .20$, $p < .20$; $n = 50$) or response time ($r = -.13$, *ns*; $n = 50$). As in Experiments 1 and 2, however, the correlation between confidence and latency was significant ($r = -.37$, $p < .02$; $n = 50$). When broken down by condition, the results essentially replicated those previously obtained; that is, the accuracy–confidence correlation was significant in the RSA condition ($r = .48$, $p < .02$; $n = 25$) but not in the control group ($r = -.10$, *ns*; $n = 25$). Also, as in Experiment 2, it appeared that response latency, which again was not significantly related to accuracy, was predictive of subjects' confidence ratings in the control

[6] Three subjects in this situation failed to narrate as the videotape proceeded. In each of these instances, the experimenter stopped the tape, reminded the subject of the instruction, and started over again.

group ($r = -.56$, $p < .01$; $n = 25$) but not in the RSA condition ($r = -.18$, *ns*; $n = 25$).

Individual Differences

As reported elsewhere (e.g., Fenigstein et al., 1975), scores on the public and private self-consciousness scales were somewhat positively correlated ($r = .28$, $p < .05$; $n = 50$). Indeed only 19 of the 50 subjects were classified as high on one dimension of self-consciousness and low on the other. In order to investigate the eyewitness personality question, the correlational data were broken down into two 2 × 2 tables and analyzed separately for public and private self-consciousness (see Table 2). First, across conditions, the correlation between accuracy and confidence was significant among subjects who were low in private self-consciousness ($r = .50$, $p < .01$; $n = 26$), and it approached significance among those who were high in public self-consciousness ($r = .31$, $p < .12$; $n = 27$). In fact, if these data are combined with those collected from subjects in the narration groups, this pattern holds firm, as $r = .43$ ($p < .01$; $n = 39$) for the low-private subjects, and $r = .39$ ($p < .02$; $n = 38$) for the high-public subjects (rs = −.06 and .11 for the high-private and low-public subjects, respectively).

Table 2
Correlations for RSA and Control Subjects Classified on Private and Public Self-Consciousness

Condition	Correlations		
	A–C	A–L	C–L
Private self-consciousness			
RSA			
High	.02	−.38	−.09
Low	.78**	−.28	−.23
Control			
High	−.33	.17	−.68**
Low	.05	.00	−.44
Public self-consciousness			
RSA			
High	.52	−.16	−.33
Low	.41	−.53	.13
Control			
High	.13	−.09	−.56*
Low	−.38	.28	−.58

Note. RSA = retrospective self-awareness; A = identification accuracy, L = response latency, and C = confidence ratings.
* $p < .05$. ** $p < .01$.

The within-cell correlation coefficients contribute some interesting and consistent (though because of the small *n*s, only suggestive) corroborative evidence. First, accuracy and confidence were uncorrelated in all personality subgroups of the control condition. This relation was stronger in all cells of the RSA condition except for subjects classified as high in private self-consciousness. Second, confidence and latency were more strongly correlated within all control subgroups than within all RSA subgroups. Thus individual differences did not moderate this latter relation.

The Narration Procedure

Fourteen of the 25 narration subjects (56%) made accurate identifications. Likewise, their confidence estimates and response times were similar to those produced by the main sample (*M*s = 4.56 and 29.84, respectively). Overall, identification accuracy was not significantly related to either confidence ($r = .19$) or latency ($r = -.07$), though the latter two variables were highly correlated with each other ($r = -.58$, $p < .01$; $n = 25$). Separating the RSA and control subjects revealed the same pattern in both groups—accuracy was uniformly uncorrelated with confidence (corresponding *r*s = .05 and .18) and latency (*r*s = .13 and −.10), which in turn were correlated with each other (*r*s = .65 and .49). Having subjects provide retrospective narrative of their thoughts during identification thus did not enhance control subjects' performance. In fact, it apparently destroyed the RSA phenomenon.

Subjects' narrative reports were scored for the number of discrete thoughts they contained (e.g., "I remember thinking how difficult this was," "I definitely didn't recognize three of them," "Here I am using the process of elimination"). Not surprisingly, subjects conveyed more thoughts in the presence than in the absence of videotaped self-observation (*M*s = 3.58 and 2.31, respectively), $t(23) = 2.16$, $p < .05$. This measure was not significantly related to subjects' confidence estimates ($r = -.22$, *ns*) but was correlated with response time, in that the longer that subjects took to make an identification, the more thoughts they then re-

called during the narration procedure ($r = .39$, $p < .06$; $n = 25$). In order to address the question of how helpful these verbal reports were, subjects were grouped according to the number of discrete thoughts they had provided ($Mdn = 2.5$). As it turned out, the magnitude of the accuracy–confidence correlation was unrelated to the amount of narrative report provided ($rs = .17$ and $.13$ in the high- and low-protocol groups, respectively).

Experiment 4

Thus far, the self-perception hypothesis appears to be plausible and supported by some data (i.e., the significant correlation between high public self-consciousness and the accuracy–confidence correlation) but not by others (i.e., observers' failure to exhibit the effect; the inconsistent and perhaps even misleading role played by response latency information). In the meantime, the alternative retrieval-cue hypothesis has fared even worse (i.e., the ineffectiveness of the retrospective narration procedure, and the negative relation between private self-consciousness and the accuracy–confidence correlation). In Experiment 4, testing conditions were varied somewhat in order to provide further information about the validity of these proposed explanations.

Three variations in the paradigm were introduced in this study. First, a concurrent verbalization procedure was used, wherein subjects were instructed to "think aloud" as they looked through the photospread and made their identification decisions. This process-tracing technique has a long history of usage among cognitive psychologists as a way to facilitate people's access to otherwise inarticulated thought processes and short-term memory contents that are subsequently unavailable (see Ericsson & Simon, 1980, and Newell & Simon, 1972, for reviews and the distinction between this strategy and the earlier methods of introspection). In the present research, this method was used to get subject-witnesses to generate, or at least make salient, the raw data with which they could make predictive judgments of their own performance. If the retrieval-cue explanation of the RSA effect is correct, then thinking aloud would be expected to increase the accuracy–confidence correlation, even in the absence of videotaped self-exposure.[7]

Second, another attempt was made to establish the role of response latency in this research. As such, the identification task was altered somewhat. In the previous three experiments, subjects were handed an array of photographs mounted on a single sheet of cardboard. In Experiment 4, a sequential mode of presentation was used, as the photographs appeared on separate pages of a booklet. It was expected that this apparently minor variation would provide eyewitnesses with richer overt-behavioral information for self-perception processes; that is, subjects would observe not only their total decision time but the amount of time they spent specifically considering each of the alternatives, chosen and nonchosen alike.

Third, along similar lines, subjects in this study were asked to estimate their own response latency. It was thought that perhaps their confidence estimates were based more precisely on these perceptions than on the actual passage of time.

Method

Seventy-two introductory psychology students were randomly assigned to one of four cells produced by a 2 × 2 (RSA vs. Control Condition × Think Aloud vs. Standard Procedure) factorial design ($n = 18$ per cell).

Subjects were presented with the same stimulus materials that were used in the previous two experiments. The only procedural modifications that affected all subjects were that (a) the six photographs appeared in booklet format, with

[7] There is always the possibility, of course, that because the act of verbalizing detracts subjects' attention from the main task, and that because it is an inherently social (i.e., vis-à-vis the experimenter) behavior, this technique fundamentally alters the natural thought process. On the other hand, when subjects' thoughts are already in a verbal code, not requiring translation (e.g., from perceptual or motor codes), and in instances in which subjects are likely to produce that information anyway (i.e., without the instruction), there is reason to expect that this procedure "will not change the structure and course of task processes, although it may slightly decrease the speed of task performance" (Ericsson & Simon, 1980, p. 226). Indeed, this technique has been used successfully in such disparate domains as concept-discrimination learning (Karpf, 1973) and judgments about parole (Carroll & Payne, 1977). In the present research, its effects were assessed through a comparison of results obtained in the think-aloud and standard procedures.

one picture per page, and (b) after the assessment of self-confidence, subjects were asked, "from the moment you were handed the photographs to the moment you made an identification decision, approximately how much time, in seconds, elapsed?" In addition, subjects assigned to the think-aloud condition were instructed as follows:

> *As you go through the photospread,* from picture to picture, trying to make an identification, I'd like you to tell me what you're thinking—almost as if you are *thinking aloud* or *talking to yourself.* Okay? Remember—as soon as you begin looking at the first photograph, start to describe your thoughts. Any questions?[8]

Results and Discussion

Only 49 subjects (68.1%) made an identification. Of these, 24 (49%) correctly chose the culprit. Neither RSA nor the think-aloud condition had a significant effect on either of these measures (all chi-squares < 1). Two-way analyses of variance revealed no main effects or interactions on self-confidence (M = 4.93) or response-time estimates (M = 79.28; all ps > .20). Although no significant differences appeared on the actual latency measure (M = 85.86), there was a tendency for subjects to take longer to respond in the think-aloud condition than in the standard procedure (Ms = 96.33 and 75.39, respectively), $F(1, 68) = 2.47$, $p < .12$.

Overall, accuracy was significantly correlated with both confidence ($r = .28$, $p < .02$; $n = 75$) and latency ($r = -.23$, $p < .06$; $n = 72$), which in turn were correlated with each other ($r = -.22$, $p < .07$; $n = 72$). Although subjective estimates of response time followed closely from the objective measure of latency ($r = .50$, $p < .001$; $n = 72$), both were unrelated to accuracy and confidence ratings (corresponding rs = −.09 and −.03). The correlations within each of the four cells of the 2 × 2 design appear in Table 3.

Of these results, three findings in particular are noteworthy. First, the RSA effect obtained in the three previous experiments emerged in both the standard and think-aloud groups (rs = .58 and .47); as before, accuracy and confidence were not significantly correlated in the absence of this manipulation. Second, there was evidence for a significant correlation between identification accuracy and decision time. Specifically, this correlation was found in both the RSA and control groups that were run through the standard (i.e., without the think-aloud instruction) procedure (rs = −.62 and −.50). Thus for the first time since Experiment 1, response latency turned out to be a valid predictor of identification performance, as accurate eyewitnesses made their decisions more quickly than their inaccurate counterparts.[9] This finding is probably attributable to our use of the sequential photospread that, compared with the same stimuli when simultaneously presented, elicited a large increase in both mean response time (85.86 s, excluding subjects in the think-aloud groups, compared with 26.58 s, when Experiments 2 and 3 were combined) and variability between subjects (SD = 57.52 compared with 13.85). Response latency thus became a more distinguishing behavioral cue. At the same time, it was not predictive of subjects' performance in the think-aloud condition. Presumably, with the identification and concurrent-verbalization tasks being performed simultaneously, response time in this condition was determined by factors extraneous to the decision itself.

Table 3
Correlations in the Four Cells Produced by the 2 × 2 (RSA vs. Control × Standard vs. Think-Aloud) Design

	Correlations		
Condition	A–C	A–L	C–L
RSA			
Standard	.58*	−.62**	−.75**
Think aloud	.47*	.25	−.04
Control			
Standard	.26	−.50*	−.04
Think aloud	−.03	.03	−.19

Note. RSA = retrospective self-awareness; A = identification accuracy, L = response latency, and C = confidence ratings.
* $p < .05$. ** $p < .01$.

[8] Pretesting showed that subjects were able to comply with this instruction. Indeed, all 36 subjects in this condition provided verbal protocol data of some sort.

[9] Partial correlations (accuracy and confidence controlling for latency) were calculated for all cells in this series of experiments. To this point, none of these analyses produced any change in results. In this instance, however, it reduced the correlation from .58 to a nonsignificant .22, thereby corroborating the role of latency as a mediating varible in this group.

Lastly, the data in Table 3 show that confidence and latency measures were significantly correlated only in the RSA-standard procedure cell ($r = -.76, p < .001; n = 18$). In the present research program this was the strongest correlation obtained between these two variables. For some reason, no such correlation appeared in the standard control group, as it had in the previous two studies. Aside from this anomaly, the pattern is understandable; that is, when a sequential photospread that provided subjects with more distinguishing behavioral information was used, response latency provided a basis for confidence, but only when it was salient, as both (a) during videotaped self-exposure and (b) when it did not compete with other information, such as concurrent verbalization protocol.[10]

Table 4
Summary of Correlations Obtained in Experiments 1–4

Condition	Correlations		
	A–C	A–L	C–L
Experiment 1			
RSA (n = 12)	.84	−.46	−.31
Control (n = 36)	.07	−.32	−.41
Combined	.58	−.37	−.20
Experiment 2[a]			
RSA (n = 16)	.47	−.17	.06
Control (n = 17)	.05	−.14	−.55
Combined	.25	−.16	−.24
Experiment 3[b]			
RSA (n = 38)	.33	−.25	−.29
Control (n = 37)	.00	.03	−.59
Combined	.18	−.10	−.41
Experiment 4			
RSA (n = 36)	.53	−.19	−.40
Control (n = 36)	.12	−.24	−.11
Combined	.28	−.23	−.22
Averages			
RSA (n = 102)	.48	−.24	−.28
Control (n = 126)	.04	−.17	−.40
Combined	.31	−.21	−.25

Note. RSA = retrospective self-awareness. For experiments involving multiple RSA or control groups, rs represent the weighted mean of their within-sample coefficients. "Combined" coefficients were derived by means of pooling all subjects in the experiment for analysis, regardless of condition.

[a] The 30 observers are excluded from this table.

[b] Subjects in the narration condition of this study were assigned for analysis to their respective (RSA or control) conditions.

Conclusions and Implications

Collectively, the four studies reported in this article yielded several unambiguous conclusions. In order to facilitate a summary and integration of the data, Table 4 represents a compilation of results for all RSA, control, and combined samples of subject-witnesses (N = 228).

Regarding Table 4, several consistent patterns emerge. First, it is strikingly clear that at least for the eyewitness paradigm used in this research, identification accuracy and confidence are indeed unrelated (the average control-group r was .04). This finding thus corroborates previous conclusions to that effect (Deffenbacher, 1980; Leippe, 1980; Wells & Murray, 1983, 1984). Second, it is equally clear that the state of retrospective self-awareness, as manipulated via videotaped self-observation, is an effective device for significantly increasing that correlation (the average RSA group r was .48). This finding thus supports and extends recent accounts of self-awareness theory and research (Carver & Scheier, 1981; Pryor et al., 1977; Scheier et al., 1978; Turner et al., 1978; Wicklund, 1975).

In Table 4, two additional, previously neglected effects, both involving the measure of identification response time, are highlighted. First, there is a weak but consistent tendency for accurate identifications to be made with greater rapidity than inaccurate identifications (the combined average $r = -.21$). Although this finding appears in 11 of the 12 groups summarized in Table 4 and it makes intuitive sense, response time still accounted for only 4.4% of the variance. Second, it turned out that the less time it took witnesses to make their identifications, the greater was the confidence they subsequently asserted in those decisions (the combined average $r = -.25$). This

[10] Subjects' think-aloud protocol were supposed to be content-analyzed. Unfortunately, many of the videotaped sessions were barely audible (in contrast to the postidentification narration procedure of Experiment 3 in which verbalizations were recorded through separate audiotape equipment).

correlation was especially strong among subjects who were not provided with videotaped self-observation (average control group $r = -.40$).

Theoretical Implications

On a theoretical level, this research addresses the ongoing debate concerning the extent of people's knowledge about their own cognitive processes (cf. Ericsson & Simon, 1980; Kraut & Lewis, 1982; Nisbett & Bellows, 1977; Nisbett & Wison, 1977; Rich, 1979; Smith & Miller, 1978; White, 1980). Indeed the RSA effect obtained in the present research supports the argument that people do have access to such information. Can people tell what they know? Perhaps even Nisbett and Wilson's subjects would have reported accurately on the causes of their own behavior had they first had the opportunity to watch a videotape of their own experimental sessions. Certainly the generalizability of the RSA phenomenon from eyewitness identification to other tasks and contexts represents an important direction for further research.

A closer look at the controversy in this literature, however, suggests that perhaps the central question is not whether people can identify their own mental states and processes but, in instances when they can, whether that knowledge is direct (i.e., is based on the perception of internal cues and sensations) or indirect (i.e., is based on inferences derived from external sources of information). Some theorists have argued for a form of direct access model (e.g., Ericsson & Simon, 1980; Zajonc, 1980), whereas others have maintained that such knowledge is gained via inferences based on overt behavioral manifestations (e.g., Bem, 1972) or on a priori beliefs (e.g., Nisbett & Bellows, 1977). In that context, the implications of the RSA effect are still not clear. The fact that retrospective self-observation increased the accuracy–confidence relation could be interpreted in two ways: Either this manipulation forced subjects to introspect, thereby priming their access to previously overlooked internal cues (the retrieval-cue hypothesis), or it provided them with external information that is necessary for indirect, more inferential processes (the self-perception hypothesis).

As Experiments 2, 3, and 4 have shown, our efforts to explain the phenomenon in these terms may have generated more confusion than insight. Certainly, there was little evidence to support the retrieval-cue idea. Neither the concurrent nor retrospective verbalization procedures increased the accuracy–confidence correlation among control-group subjects. In fact, the latter procedure even appeared to destroy the effects of retrospective self-observation. Moreover, it turned out that subjects who were high in private self-consciousness (a measure of the dispositional tendency toward introspection) appeared to benefit the least from their exposure to the RSA manipulation. Looking at these data, one might even suggest that introspection, in both trait and state terms, actually impairs the quality of self-appraisal processes. Perhaps it has this negative effect because introspective subjects attend to thoughts that are irrelevant to the task at hand (i.e., estimating their own accuracy). If so, then one would predict that advising subjects that their task is to determine their own level of confidence, before the use of an introspection technique, would increase their accuracy–confidence relation. Alternatively, it is possible that private self-awareness failed because it distracted subjects from attending to other, external sources of information.[11]

The self-perception hypothesis has fared somewhat better in this research, though the results are not entirely consistent. On the positive side, high public self-consciousness was associated with greater correspondence between accuracy and confidence, as predicted by an indirect, self-perception view. Also, the results of Experiment 4 suggest that there are times when response latency is a valuable cue (i.e., when it is significantly predictive of performance and is associated with self-ratings of confidence). On the negative side, response time, which is a salient cue in this decision-making task, has not played a consistent role in this research. Also, observers' estimates of eyewitnesses' confidence were also not signif-

[11] Another possible explanation for the RSA effect is a more motivational version of the direct access idea: that maybe self-observation causes subjects to exert more effort and care in their attempts to estimate the accuracy of their own performance (e.g., Wilson, Hull, & Johnson, 1981).

icantly related to identification accuracy, despite their exposure to the videotaped sessions.[12]

At this point, we are left with two important empirical questions concerning the validity of this explanation. First, what is the causal relation between measures of response time and self-confidence? Although it seems plausible to assume that subjects infer the latter from the former, these data are merely correlational. It is possible, for example, that both confidence and latency reflect the common influence of a third variable. One interesting way to test the causal assumption could be to provide subjects with false feedback about their decision time and to observe its effects on their confidence ratings. The second empirical question that needs to be resolved is whether overt behavioral cues other than response latency are mediating the RSA effect. The most likely possibility here is the vast array of nonverbal cues, such as changes in facial expression, through which subjects might unwittingly convey to themselves accurate information about task difficulty, effort expenditure, and, by implication, their own self-confidence.

Practical Implications

Because accurate and inaccurate eyewitnesses typically do not express differences in their levels of self-confidence, and because confidence is one of the most important bases on which others evaluate their credibility, two solutions to the dilemma are possible. The first is to inform the trial judge and jury about the problem, leaving them to search for other, perhaps equally misleading cues emanating from the witness. Actually, this solution can be effective if the fact finder, through the testimony of an expert psychological witness (or, in the case of juries, through a carefully drafted pattern instruction), is provided with information concerning the objective conditions under which eyewitness observation and testimony can or cannot be considered reliable (for discussions of this alternative, see Loftus, 1983; McCloskey & Egeth, 1983; Wells, 1984). The present research, however, suggests a second possible solution: to actually increase the diagnosticity of eyewitness self-confidence so that fact finders' intuitions would serve them well.

These results have interesting potential for application in the criminal justice system. Specifically, they suggest that perhaps when law enforcement officials secure identifications via lineups or mugshots, they should videotape their eyewitnesses for subsequent playback before probing them about their degree of certainty, their willingness to testify, and so on. Although this procedure may sound radical, videotape technology has, in fact, become increasingly acceptable for several evidentiary purposes in law enforcement and the courts, such as recording undercover operations, confessions, and deposition testimony (Salvan, 1975).

On the more cautious side of such a proposal, it is important to bear in mind the limits in the generalizability thus far established for the RSA phenomenon. These studies all shared several common features, many of which can affect indexes of eyewitness performance (for

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[12] In an interesting addendum to this result, the self-perception hypothesis receives an added measure of support. Malpass and Devine (1984) argued that in the case of offender-present lineups, two types of possible error, false identifications and the failure to make any identification, could be distinguished. In the present research, both responses had been categorized together as incorrect. What happens if subjects who did not make an identification are excluded, yielding a strict and arguably more appropriate comparison between those who made a right versus wrong identification?

The results of this reanalysis proved informative. First, it turned out that excluding the nonidentifiers did not produce any changes in response latency or mean confidence ratings, as reported by Malpass and Devine (1981). With regard to confidence, the fact that nonidentifiers were no less certain of their decisions than the others resulted in an almost uniform increase in the accuracy–confidence correlation (from .31 to .40 overall; from .48 to .54 within the RSA groups, combined; from .04 to .19 within the control groups, combined). Of special relevance to the self-perception explanation, the reanalysis of Experiment 2 showed that the increase in the accuracy–confidence correlation was considerable among RSA actors (from .44, $p < .05$, to .68, $p < .01$) and observers (from .24, *ns*, to .41, $p < .05$), but not for control group actors (from .05 to .11, both *ns*). In short, when only the subsample of subjects who made a selection is considered, there is evidence of a paradox, consistent with the self-perception view, that observers perform better on behalf of the actors than the actors who are not self-aware do for themselves. Further research in which the presence or absence in the lineup of the offender is manipulated, and a signal detection model is systematically utilized to measure the various components of accuracy and error, should address this suggestive finding.

a review, see Malpass & Devine, 1984)—(a) subjects knew, while observing the stimulus event, that they were not experiencing a real crime, (b) they therefore knew, while looking at the photospread, that their identification decisions were of no consequence, (c) they were presented with an array of pictures in which the culprit was present, and (d) they were reading an unbiased (i.e., the culprit may or may not be in the lineup) instruction. Finally, perhaps the most serious practical limitation of these results is that because subjects' decisions had no personal consequence (e.g., they would not become involved or excluded in the prosecution of a crime), they were probably reasonably motivated to provide an accurate appraisal of their feelings of confidence. As such, the additional information gained via self-observation could indeed prove beneficial. Whether the RSA effect applies to real witnesses who are motivated by needs for vengeance, positive self-presentation, public attention, or noninvolvement, however, remains to be seen.

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Psychological Documents to Be Discontinued

At its February 2–3, 1985, meeting, the Council of Representatives voted to cease publication of *Psychological Documents* (formerly the Journal Supplement Abstract Service) as of December 31, 1985, with the publication of the December 1985 issue of the catalog. Continued low submissions, decreasing usage, and rising costs for fulfillment of paper and microfiche copies of documents were reasons given for discontinuing publication of the alternative format publication, which was begun in 1971 as an "experimental" publication.

Authors who wished to submit documents for publication consideration in 1985 were required to do so by July 1. Authors revising documents were required to complete all revisions and submit them for final review no later than July 1. Fulfillment of orders for paper and microfiche copies of documents presently in the system and of those documents entered during 1985 will continue through December 31, 1986.
