Eyewitness confidence: social influence and belief perseverance

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Eyewitness confidence: Social influence and belief perseverance

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Iowa State University, 1991
Eyewitness confidence: Social influence 
and belief perseverance

by

C. A. Elizabeth Luus

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ABSTRACT

Two studies investigated changes in eyewitness identification confidence after an identification has been made. In Experiment 1, thefts were staged 70 times for pairs of unsuspecting eyewitnesses (total n = 140). Before campus security arrived, witnesses were separated and attempted identifications of the thief from a target-absent photospread. Biased instructions were used to induce false identifications. The 96% who made false identifications were then randomly assigned to one of 9 conditions telling them of the alleged identification decision of their co-witness. Witnesses were told that (a) the co-witness identified the same person, (b) the co-witness identified a different but plausible other person, (c) the co-witness identified an implausibly different person, (d) the co-witness rejected the photospread, or (e) the witness was told nothing about the co-witness's decision. In addition, some witnesses who were told that the co-witness identified the same person were later told that the information was incorrect and that the co-witness had actually identified a different person or were told that it was not known who the co-witness identified.
As well, some witnesses who were told that the co-witness had identified a different person were later told that the information was incorrect and that the other witness had actually identified the same person or were told that it was not known who the co-witness identified. Following the co-witness information manipulation, a campus security officer questioned witnesses about their identifications of the thief. Compared to the no-information control condition, co-witness agreement produced a robust inflation of certainty whereas co-witness disagreement produced a precipitous decline in certainty. With one exception, correcting the co-witness information did not eliminate the confidence-inflating and deflating effects of the original information, indicating a strong perseverance effect. In the second experiment, subject-jurors (n = 378) viewed the testimony videotapes and evaluated the credibility of the witnesses. Subject-jurors' ratings of perceived credibility were influenced by the type of information witnesses had received in a pattern that generally paralleled the results of Experiment 1.
INTRODUCTION

How do people decide whether to believe an eyewitness's identification testimony? A recent survey suggests that 56% of jurors believe that eyewitness confidence is a good indicator of testimony accuracy (Brigham & Bothwell, 1983). A witness's perceived confidence in testifying has been shown to be the primary cue that people use to judge eyewitness credibility (e.g., Wells, Lindsay, & Ferguson, 1979; Lindsay, Wells, & Rumpel, 1981). Consistent with this notion of the confident, thus accurate eyewitness, the United States Supreme Court has ruled that confidence should be used to infer testimony accuracy (Neil v. Biggers, 1972).

This trust in eyewitness confidence seems to be misplaced. The general consensus is that accuracy of testimony and confidence are poorly calibrated (e.g., Deffenbacher, 1980; Leippe, 1980; Wells & Murray, 1983, 1984). For example, Wells et al. (1979) videotaped cross-examinations of eyewitnesses to staged thefts and subsequently presented the videotapes to subject jurors, asking them to judge
whether they believed the witnesses had correctly identified the criminal or not. Subject jurors relied heavily on eyewitness confidence to make their decisions, and equally believed eyewitnesses who had correctly identified the criminal and witnesses who had mistakenly identified an innocent suspect. So, people are relying on a risky assumption in taking their cue from the witness's expressed confidence in his or her identification decision.

It has been argued that the eyewitness identification problem is not a problem of false identifications per se but rather one of "credible" or "persuasive" false identifications (Wells et al., 1979). Hence, the danger is that an eyewitness who makes a false identification might also have a firm belief that she or he has identified the actual culprit; it is the combination of false identification testimony plus a confident belief in its validity that creates the potential for miscarriage of justice. Research on the confidence-accuracy relation has been important, therefore because of what it indicates about the likelihood that high confidence and false identification will co-occur.

The current research is concerned only indirectly
with the confidence-accuracy relation. Instead, the primary concern is with the effects of social influence on eyewitness identification confidence. In particular, the central question is how social information that is obtained after an eyewitness has made an identification affects the confidence that the witness holds in that identification. To address this question, the lineup task in the first experiment was structured to yield only false identifications. Post-identification information was then provided to witnesses. The effects of the information on eyewitness confidence were assessed. Given the importance of eyewitness identification confidence as a primary determinant of the perceived credibility of an eyewitness, it is critical to understand the ways in which events that occur after an identification is made affect the certainty with which that testimony is given.

**Moderators of the Accuracy-Confidence Relationship**

Recent research has sought to develop an understanding of the factors moderating the confidence-accuracy relationship and the processes
through which eyewitness accuracy and confidence develop. An important goal was to identify the conditions that foster or inhibit the accuracy-confidence relationship in order to help judges and jurors distinguish between accurate and inaccurate identifications. Notable theorizing in this area, first advanced by Deffenbacher (1980), concerns an "optimality" hypothesis.

According to Deffenbacher, the confidence-accuracy relationship is moderated by the quality of the encoding conditions existing at the time an eyewitness observes a crime; the better the encoding conditions, the stronger the accuracy-confidence relationship. Although intuitively appealing, the optimality hypothesis has received little empirical support. For example, Lindsay et al. (1979) varied witnessing conditions and determined that changes in eyewitness accuracy were not associated with changes in eyewitness confidence nor with the magnitude of the confidence-accuracy relation. In this study, eyewitness accuracy was varied by exposing subject-witnesses to a staged theft under one of three types of viewing conditions that varied in terms of how good a view they afforded of the thief (e.g., varying such
factors as the amount of viewing time and whether or not the thief wore a hat that masked his hair). This manipulation was effective in producing significant differences in accuracy among groups. Changes in accuracy, however, were not accompanied by changes in confidence or by changes in the confidence-accuracy relation.

In contrast to Deffenbacher's (1980) approach, other researchers interested in specifying moderators of the confidence-accuracy relationship have focused on the retrieval rather than the encoding stage of eyewitness memory. This perspective reflects what Wells (1978) has termed a system-variable approach to eyewitness research. Wells articulated the difference between what he termed system variables and estimator variables in eyewitness research. Estimator variables operate at the encoding stage of memory (e.g., viewing conditions) and are outside the control of the legal system. Although estimator variables can be controlled in research experiments, in actual cases their effects on eyewitness testimony can only be estimated. System variables, on the other hand, are post-witnessed-event variables (e.g., lineup identification instructions) that are under at least
some control by the legal system. They can be manipulated in actual cases to maximize the correspondence between eyewitness accuracy and confidence.

One successful investigation of system variables that might moderate the accuracy-confidence relationship was conducted by Kassin (1985). In a series of four experiments, Kassin demonstrated that the accuracy-confidence relation could be improved by allowing witnesses to view videotapes of themselves making their identifications from a photospread before asking them to rate their confidence in their identifications. Kassin claimed that witnesses gained "retrospective self-awareness" (RSA) from this procedure. Kassin suggested two reasons for the success of RSA in improving the accuracy-confidence relation. First, it may have provided witnesses with an opportunity to make relevant inferences based on their overt behavior. Witnesses may, for example, have inferred that the quicker they made a decision, the more likely they were to be accurate. Second, RSA may have allowed witnesses to reexperience the thoughts they had when previously viewing the lineup and making an identification decision.
An Alternative Approach to the Accuracy-Certainty Question

In contrast to previous investigations of the confidence-accuracy relation, the research reported here is based on the idea that one should not necessarily expect a relationship between eyewitness accuracy and confidence. The research was designed to explain the limited success of the search for moderators of the confidence-accuracy relation. The rationale for this approach is presented following a more general discussion of eyewitness confidence.

What is Eyewitness Confidence?

Researchers interested in eyewitness confidence have focused on the relationship between confidence and other variables and their implications in trial decisions. No research has yet articulated exactly what eyewitness confidence is beyond saying that it is a witness's belief in the accuracy of his or her testimony.

Confidence in general is the intensity or strength with which a belief is held (Rokeach, 1968). In order to understand how this intensity of belief
varies, it is necessary to first consider the structure of beliefs. Intensity of belief often varies as a function of the structure of a belief. Rokeach (1968) distinguished between primitive and nonprimitive beliefs. Primitive beliefs "have an axiomatic, taken-for-granted character" (p. 6). They arise from direct contact with the belief object and are held as "basic truths" about oneself, others, and one's environment. Examples include: "oranges are round", and "sunlight is hot". These beliefs are fundamental to one's understanding of the world. To challenge them would be to challenge one's identity or basic understanding of the world. Rokeach provides a good example of the distress that can arise in response to a challenge to a primitive belief. Specifically, Rokeach has observed that a young child initially enjoys it when a parent calls him or her by a different name, thinking it a new game. If the parent persists in the "game", however, the child becomes anxious, pleading with the parent to recognize who he or she actually is.

A nonprimitive belief, on the other hand, is more heavily influenced by inferences or logical derivations. For example, a person might derive a
belief that a particular movie or restaurant is good based on an observation that many people are lined up to get into that movie or restaurant. Such nonprimitive beliefs might follow syllogism-like progressions (e.g., Jones & Gerard, 1967; McGuire, 1969) or be more loosely tied to heuristic reasoning (e.g., Kahneman, Slovic, & Tversky, 1982). Although primitive beliefs might be associated with extremely high levels of certainty and be largely intractable, nonprimitive beliefs can be quite tractable as a function of new information.

Is an eyewitness's identification, which is a statement that the identified person and the culprit are one and the same person, a primitive or nonprimitive belief? One view, seemingly implicit among those who are surprised about the poor relation between eyewitness identification confidence and eyewitness accuracy, is that such confidence is an expression of the degree to which the identified person resembles the eyewitness's memory for the culprit. In this sense, eyewitness identification confidence is a primitive belief in that it results from direct contact with the belief object. According to this view, in order to affect one's certainty of
identification there would have to be some mutation to the belief object (e.g., make the orange square rather than spherical or change the suspect's eyes from brown to blue) or an alteration to the witness's memory.

The current research, however, assumes that eyewitness identification is a nonprimitive belief and, therefore, one's certainty of identification can be influenced by inferences that arise from factors other than direct experience with the belief object and other than the witness's memory. As a nonprimitive belief, eyewitness identification confidence should be highly malleable. In line with this assumption, eyewitness identification confidence is defined herein as the strength or intensity of a nonprimitive belief that the identified person and the culprit are one and the same person.

**Social Influence and Eyewitness Confidence**

One principle underlying the behavior of individuals under conditions of uncertainty is the principle of social proof (Cialdini, 1988). "This principle states that we determine what is correct by finding out what other people think is correct" (Cialdini, 1988, p. 110). The principle has been
generally applied to the way people decide what behavior is appropriate in a given situation. For example, in trying to decide what to wear to a social function, or whether to laugh at someone's comments or actions, people look to the behavior of others to decide what to do. This principle might be operating in eyewitness situations where witnesses are trying to evaluate the appropriateness of their lineup decisions.

Eyewitnesses, when faced with the task of identifying the perpetrator from a lineup, may find themselves in a situation similar to that of participants in Sherif's (1937) studies of norm formation. Sherif's participants stood together in pairs in a darkened room and observed the autokinetic phenomenon (the apparent movement of a stationary point of light in the dark). They were asked to estimate how far the light moved. The other participant was, in fact, a confederate who had been told to make estimations consistently lower or higher than those of the participant. Under these circumstances, the participant soon began to make estimates that were more and more similar to those of the confederate.
The situation in Sherif's (1937) study was one marked by uncertainty or ambiguity (participants had no guidelines or anchors on which to base their estimates). Under these conditions, participants were influenced by the confederate's estimates. Similarly, in eyewitness identification situations, eyewitnesses may be influenced by comments made by a police officer or co-eyewitnesses. Just as Sherif's participants came to distrust their estimates upon hearing a confederate state estimates that were widely discrepant from their own, so eyewitnesses might come to distrust their lineup choices upon learning that a co-eyewitness identified a different person.

The general idea that co-eyewitnesses can influence an eyewitness's confidence is similar to the notion of social comparison. Social Comparison Theory (Festinger, 1954) proposes that people evaluate the appropriateness of their attitudes and opinions through comparisons with similar others under conditions of uncertainty. Such a comparison process might be operating in eyewitness situations wherein eyewitnesses are trying to evaluate the appropriateness of their lineup decisions.

Social Comparison Theory proposes that we seek
out others in order to evaluate and find social support for our opinions (Festinger, 1954). Research suggests that such comparisons become particularly important in threatening or ambiguous situations (where there is no "objective reality"). Eyewitness identification situations contain this element of uncertainty. Because the police do not know for certain who the guilty party is, eyewitnesses can never be assured that they have correctly identified the perpetrator. So eyewitnesses might look to others who witnessed the same event for validation of their identification decisions. The goal of this research is to empirically test this idea.

Upon learning that a co-eyewitness to the event identified the same lineup member, eyewitnesses might be expected to feel confident that they have correctly identified the perpetrator. This idea is consistent with the findings of Goethals and Nelson (1973). These researchers found that agreement from a similar other increases confidence in value judgments (i.e., judgments concerned with "what is affectively positive or negative" (p. 118) rather than what is verifiable). Eyewitness identification certainty can be considered a value judgment. As noted above, the accuracy of
eyewitness identifications cannot be verified by police officers or criminal justice officials. Witnesses can never be assured that they have made an accurate identification. They can learn that additional evidence either supports or contradicts their identification and can use this information to decide how they feel about their identifications.

The present research was designed to explore the possibility that co-eyewitnesses to an event can serve as a source of social influence on eyewitness confidence. The research tests the hypothesis that eyewitness confidence can be raised or lowered by providing witnesses with information concerning the identification decision of a co-eyewitness to the event.

Drawing on the conformity literature, such changes in confidence can be explained in terms of the motivations or needs of eyewitnesses, or people in general. People often conform because of two basic needs: the need to be liked and the need to be correct (Insko, 1985). Conformity based on this first need is known as normative social influence. Here, individuals are motivated to behave as others do in order to gain their approval and acceptance or at
least to avoid social rejection. So individuals might state that they agree with the opinions of their peer group in order to gain their approval while not necessarily accepting (i.e., believing) those views. This was the case in Asch's (1951) classic study of conformity.

Asch asked participants to respond to a series of simple perceptual judgment tasks. These judgments involved deciding which of three comparison lines matched a standard line in length. Several confederates, posing as participants, took part in the judgment task as well. On pre-arranged trials, the confederates provided answers that were clearly inaccurate. The task was structured to ensure that the confederates always responded before the actual participant. Thus, participants were faced with the dilemma of either stating the correct answer and standing apart from the group or going along with the group by stating a judgment they knew was incorrect. The majority of Asch's participants succumbed to the group pressure implicit in the situation he had created: 76 percent of the participants in his research went along with the group and publicly stated an incorrect response at least once. In the absence
of any confederates only 5 percent of participants made incorrect judgments.

Informational social influence, on the other hand, leads people to accept others' views, to internalize and believe those views as correct. Under conditions of uncertainty, people often look to others to help them understand what is correct. In deciding whether to interpret a situation as an emergency, for example, people often look to the reactions of others to decide whether they should offer assistance (Darley & Latane, 1968).

In eyewitness identification situations, witnesses might consider the lineup decisions of co-eyewitnesses in order to decide whether their decision was correct. This is a situation where witnesses might feel a need to know whether they have made the right decision. The eyewitness situation is not one marked by a need to be liked; hence normative social influence is unlikely to be the principal factor operating. Instead, it seems more likely that co-witness information would operate through the principal of informational social influence.
The Basis of Eyewitness Confidence

Extant research has shown that we should not necessarily expect a relationship between eyewitness accuracy and confidence. Eyewitness confidence can be altered by social forces subsequent to identification decisions (Wells, Lindsay, & Ferguson, 1981). Consistent with evidence presented by Nisbett and Wilson (1977), witnesses may well be unaware that some external factor has influenced their confidence. Nisbett and Wilson manipulated some component of various complex situations. The impact of the manipulations was assessed as were subjects' perceptions of their impact. Subjects' reports were commonly inaccurate. "If the stimulus component had a significant effect on responses, subjects typically reported that it was noninfluential" (p. 243).

Leippe (1980) proposed that human information-processing systems seem "capable of altering memory and confidence in orthogonal directions, especially in the context of powerful and rich social situations" (p. 271). Leippe suggested that eyewitness accuracy and confidence could be controlled by different mechanisms. That is, some factors could influence
accuracy while having no effect on confidence and other factors could influence confidence but not accuracy. Somewhat surprisingly, the role of social influence (the influence of other people) on eyewitnesses has been confined to research and theory on the malleability of eyewitness memory with no attempt to examine the role of social influence on eyewitness certainty. Furthermore, dominant theorizing about memory malleability has not adopted a social influence (e.g., conformity, compliance, persuasion) perspective, but rather has operated from a reconstructive memory or other purely cognitive framework (Loftus, 1974). Recently, a social influence perspective, involving concepts such as conformity, compliance, and source credibility, has been advocated in the memory malleability research literature (e.g., see McCloskey & Zaragoza, 1987), but the role of social influence in eyewitness certainty has remained conspicuously absent.

Research and theory on the malleability of memory are especially relevant to the concept of confidence malleability for the following reason. Memory malleability research rests on a supposition that is
similar to the one that is tested in this research; namely, that other people serve as external sources of information and can influence one's testimony about a previously-witnessed event.

The Malleability of Eyewitness Memory

Loftus (1974) suggested that eyewitness accuracy might decrease as a function of post-witnessed-event cognitive processing. Subsequent to witnessing a crime, eyewitnesses might integrate their memories for the event with previously-stored memories, or they might modify or distort their recollection of what happened by combining that memory with information gained through discussion with others present at the scene of the crime.

Research concerning the effects of misleading questions on eyewitness accuracy supports this memory report distortion hypothesis. Research indicates that providing witnesses with misleading postevent information -- information that is inconsistent with some aspect of a witnessed event, can reduce the accuracy of eyewitness reports. In a number of studies (e.g., Loftus & Palmer, 1974; Loftus, 1975,
1977; Loftus, Miller, & Burns, 1978), participants who were provided with misleading postevent information tended to incorporate the information into their reports when questioned later about the event. In illustration, participants in Loftus' (1975) experiment viewed a slide sequence depicting a traffic accident. Following this they were asked to respond to questions about the event. One half of the participants were asked, "How fast was the white sports car going when it passed the barn while traveling along the country road?". This question was misleading in that the car did not pass a barn. Control condition participants were simply asked to estimate the speed of the car traveling along the country road. Only 2.7% of the control participants responded affirmatively when asked if they had seen barn. However, 17.3% of participants who received the misleading postevent information reported seeing a barn. Loftus interpreted these results as evidence that the misleading information impaired participants' memories of the event.

The idea that misleading information impairs participants' memories for an event has recently been challenged by a number of researchers who argue that
misleading post event information may impair eyewitness reports but leave intact the eyewitnesses' memories (e.g., Bekerian & Bowers, 1983; McCloskey & Zaragoza, 1987; Smith & Ellsworth, 1987). McCloskey and Zaragoza, for example, had participants view a series of slides depicting a theft, then read a postnarrative that presented either neutral or misleading information about critical details, and finally respond to a test of their ability to recall the critical details. Virtually all previous postevent information research had assessed recognition rather than recall of some previously encountered information. McCloskey and Zaragoza found no difference between the memory performance of control and misled participants.

Others have suggested that participants remember the original information but report misleading information in order to comply with experimental demand characteristics (McCloskey & Zaragoza, 1985a, 1985b; Smith & Ellsworth, 1987; Turtle, 1984; Zaragoza, Jamis, & McCloskey, 1987). Smith and Ellsworth (1987) conducted a postevent information and memory study in which they manipulated perceived experimenter credibility. They found that those
participants who were questioned by a high-credibility experimenter reported the misinformation but participants who were questioned by an experimenter who lacked credibility did not report the misleading information. Zaragoza, McCloskey, and Jamis (1987) found that when demand characteristics were eliminated from the experimental situation, the accuracy of misled participants' reports was comparable to that of control participants' reports. Response biases were eliminated by using test questions that excluded the misleading postevent information as a possible response.

Regardless of whether memory for the event actually changes, the fact that witnesses report postevent information that is inconsistent with their original recollection is cause for concern. Jurors depend on eyewitnesses to provide them with an accurate description of witnessed events in order that they may render a correct verdict. These verdicts are heavily influenced by the certainty expressed by eyewitnesses. Indeed, confidence is the primary factor jurors use to judge the accuracy of witnesses' reports (Lindsay, Wells, & Rumpel, 1981; Wells, Lindsay, & Ferguson, 1979). The trustworthiness of
such verdicts then seems uncertain given jurors' reliance on eyewitness confidence to infer testimony accuracy and the weak relationship that has typically been found between eyewitness identification accuracy and confidence.

The Malleability of Eyewitness Confidence

Although unique in its focus on social influence and eyewitness confidence, the present research is not the first investigation of the social bases of eyewitness confidence. There is already some empirical support for the idea that eyewitness identification confidence can be altered independently of identification accuracy (Wells, Lindsay, & Ferguson, 1981).

Leippe (1980) proposed that merely thinking about a witnessed event might bolster eyewitness confidence. Leippe drew this conclusion from Tesser's (1978) research that found that people's attitudes toward stimuli such as artwork tended to polarize with post-exposure-thought about the stimulus. Wells et al. (1981) tested this proposition by staging thefts for unsuspecting participants who later attempted to identify the thief from a set of photographs.
Subject-witnesses who identified a member of the photospread were cross-examined. Prior to being cross examined, half of all subject-witnesses were briefed about the types of questions they could expect under cross examination and were encouraged to rehearse possible answers to these questions. The cross examinations were then videotaped and later shown to mock jurors for evaluation. The briefings were expected to increase witnesses' thinking about the witnessed event and, thus, bolster eyewitness confidence. Elevated confidence was expected to enhance perceived eyewitness credibility.

The results indicated that witnesses who had been briefed expressed more confidence in their suspect identifications than did those who were not briefed. The elevated confidence associated with the briefing manipulation was primarily attributable to increased certainty on the part of eyewitnesses who misidentified the perpetrator. The briefing manipulation produced statistically significant increases in expressed confidence for inaccurate but not accurate eyewitness identifications. The briefing manipulation thereby eliminated jurors' abilities to distinguish accurate from inaccurate eyewitnesses.
Subject-jurors were also significantly more likely to vote to convict the accused if he had been identified by eyewitnesses who had been briefed rather than an eyewitness who had not been briefed.

The practice of briefing witnesses before they take the stand is a common courtroom practice. This practice augments the difficulty of the task faced by jurors of distinguishing accurate from inaccurate eyewitness accounts. Unfortunately, the practice of briefing eyewitnesses is probably not the only source of inflated eyewitness confidence. In fact, "police officers and lawyers probably engage in numerous behaviors that promote a commitment-confidence spiral" (Leippe, 1980, p. 272).

Law enforcement officials do not provide the only external influences on eyewitness confidence. In actual criminal cases, there are numerous events that might occur after an eyewitness makes an identification, but before giving testimony, that could affect the certainty with which that identification testimony is delivered. If we are to understand the processes giving rise to the certainty with which eyewitness identification testimony is delivered, we must study the events that can occur
between identification and the time of testimony that could inflate or deflate eyewitness certainty.

The present research concerns the possible effects of the eyewitness's knowledge of the decisions made by a co-eyewitness. It is not uncommon for there to be more than one eyewitness to a criminal event. Although modern eyewitness procedural guidelines firmly recommend that eyewitnesses be separated prior to and during lineup identification tasks (Wells, 1988), there are no prohibitions against these witnesses discussing their identification decisions after the identification task. In the present experiment, information regarding the identification decision of the co-witness was communicated by the experimenter rather than by the co-witness so that the nature of that information could be controlled and randomized in an experimental design. But the experimenter is merely a medium of the social information; the ostensible decision of the co-witness is the agent of social influence.

Although the term feedback is used here to describe the delivery of information regarding the decision of the co-witness, it is not meant to imply that the witness is receiving information about the
accuracy of identification. Positive feedback, for example, simply means that the witness is told that the co-witness identified the same person that she or he identified and negative feedback means that the co-witness made a different identification decision. It is up to the witness to make inferences about such feedback. Nevertheless, Social Comparison Theory (Festinger, 1954) and common logic predict that positive feedback should inflate confidence and negative feedback should generally deflate confidence. As will become apparent later, however, some forms of negative feedback are not expected to have confidence-deflating effects.

This research is only the second empirical assessment of the malleability of eyewitness confidence and its implications for triers-of-fact. It differs from the first confidence-malleability study in three important ways. First, whereas the first confidence-malleability study (Wells et al., 1981) demonstrated that eyewitness confidence can be raised by extramemorial factors, the present research investigates the possibility that eyewitness confidence can be both raised and lowered by positive or negative influences. Second, the present research
is the first to explore a social (i.e., interpersonal) influence factor. Third this research is the first investigation of the process underlying changes in eyewitness confidence.

The Process Underlying Changes in Confidence

Within the context of this research there are two possible reasons for any changes in eyewitness confidence resulting from the feedback manipulation. First, witnesses might come to express more or less confidence about their identifications as a function of social support. That is, changes in eyewitness confidence might reflect changes in eyewitness' comfort with their lineup decisions upon learning that a co-eyewitness either agreed or disagreed with their choice from the lineup.

According to this process, which could be called an "ally" effect, the mere presence of someone who agrees (or disagrees) gives witnesses the confidence (or not) to firmly stand behind their identification decisions. The social support or ally hypothesis does not suppose that the witness internalizes the information. Instead, the ally effect hypothesis assumes that the process is one of normative social
influence (Insko, 1985). That is, agreement by the co-witness gives comfort to the witnesses that they are not alone in their decisions and disagreements by the co-witness produces a discomfort at standing alone or somehow being different.

Alternatively, changes in eyewitness confidence might reflect changes in the eyewitnesses' cognitions. That is, learning that a co-eyewitness either agrees or disagrees with one's lineup decision might do more than simply affect one's sense of being supported versus alone in their decision. Such information might serve to actually change eyewitnesses' beliefs about their memories or activate certain thoughts or attributions.

As noted previously, the information concerning a co-eyewitness's identification decision is a potential source of informational social influence that produces an internalization of the belief that one is correct or incorrect. For example, eyewitnesses who learn that their identification is corroborated might start thinking about how well they remember or trust their memory for the witnessed event (e.g., "I must have had a really good view of the thief").

This idea is consistent with the process of self-
perception (Bem, 1972). Self-perception theory maintains that beliefs or emotions can be created by perceptions of one's own behavior. From a self-perception perspective, eyewitness confidence can develop from knowledge of a co-eyewitness's identification decision. Eyewitnesses should report a strong sense of certainty after making their identifications upon learning that a co-eyewitness agreed with their choice. This information allows them to note that their behavior was consistent with that of a person faced with the same task. They may well reflect on their behavior and think, "I must have had a good memory for what happened and thus identified the right person since the other witness made the same choice". These eyewitnesses might also recall previous occasions when they were able to vividly recall some event or when they performed well on a recall test. As a result of such thoughts coming to mind, eyewitnesses' faith in the accuracy of their memories might come to exist independently of the feedback information. If such independence occurs, then it might be possible to discredit the feedback information and yet find perseverance of its effects.
Belief Perseverance and Eyewitness Confidence

Belief perseverance is a phenomenon whereby people tend to hold tightly to their beliefs even in the face of contradictory evidence. Ross, Lepper, and Hubbard (1975), for example, demonstrated that self-perceptions may persevere after the initial basis for such perceptions has been discredited. These researchers first provided participants with false feedback suggesting that they had either succeeded or failed on a novel discrimination task. Participants were later told that the feedback they received had been randomly determined prior to their arrival at the laboratory. Nevertheless, participants persevered in their belief in the feedback they had received, still thinking themselves skilled at the task if previously told that they had succeeded and unskilled if previously told that they had failed. Ross et al. explained their results in terms of the feedback generating a biased attribution process through which subsequently-considered information is processed.

Participants who received success feedback may well have recalled previous successes on problem-
solving tasks or experiences congruent with their feeling of being skilled at the task. Similarly, the "failure feedback" may well have aroused memories of experiences congruent with their feeling of incompetence at the task. The feedback caused participants to think of experiences that were not only consistent with their alleged performances on the task but that also served to explain their performances. Thus, participants recalled or postulated additional evidence that their performances were, in fact, indicative of their ability. This additional evidence could have helped to sustain their beliefs even after the debriefing.

In the case of the present research, the feedback manipulation might activate certain thoughts. Confirmatory feedback might cause eyewitnesses to think about how well they remember or trust their memories for a witnessed event. Disconfirmatory feedback might be expected to have the opposite effect, arousing thoughts of distrust in their memories for the event. So, eyewitnesses' faith in the accuracy of their memories might well come to exist independently of the information that created their feeling of confidence (i.e., independently of
the confidence-distorting information). Thus, if the information was later disconfirmed (i.e., if witnesses later learned that they had been misinformed about a co-eyewitness's lineup decision), witnesses would still maintain the sense of confidence in their memories they had derived from this information. The research reported here includes an information-discrediting manipulation to test this possibility.

This research tested the following hypotheses: (a) eyewitnesses' confidence would increase as a function of learning that a co-witness identified the same person they did, (b) eyewitnesses' confidence would decrease as a function of learning that a co-witnesses identified someone other than they did, (c) learning that a co-witness rejected the lineup would decrease eyewitnesses' identification certainty relative to no information, (d) witnesses would persevere in the feelings of certainty induced by the co-witness information even the information was subsequently revised or discredited.
EXPERIMENT ONE

Overview

The experimental paradigm was modeled upon a two-experiment procedure developed by Wells (e.g., Lindsay, Wells, & Rumpel, 1981; Wells, Lindsay, & Ferguson, 1979). In the first experiment, university students witnessed a staged theft. After witnessing the crime, these students were asked to identify the thief from a 6-person, target-absent photospread. Note that this research was concerned only with eyewitness confidence, not eyewitness accuracy. Thus, soliciting identifications from only a target-absent lineup (for which all identifications are incorrect) simplified the design/implementation of the first experiment and yielded a sample of witnesses whose identification confidence could be manipulated. The experimenter then provided witnesses with information concerning the lineup decision of another participant who witnessed the event at the same time.

The experimenter provided either no information concerning a co-eyewitness's identification decision or information suggesting that a co-eyewitness either agreed or disagreed with their identification decision. In some cases the information was
subsequently revised.

Following the feedback manipulation, witnesses responded to a series of questions about the theft (by someone who was blind to condition) while they were being videotaped. This interview included a question concerning how confident witnesses felt about their identification decisions. This measure of confidence was the primary dependent measure. Ancillary measures included (1) the number of details witnesses provided in describing the thief, and (2) witnesses' estimates of how long the thief was in view. These ancillary measures were included to assess changes in the witnesses' cognitions as a function of the co-witness information. If the information changed witnesses' beliefs about their memories, their testimonies might also change. If, for example, witnesses were induced to feel that they had a particularly vivid memory of the event, they might provide more detailed descriptions of the culprit and longer estimates of the time she was in view.
Method

Subjects and design

One hundred and forty male and female undergraduate psychology students were randomly assigned to the 9 conditions of the experiment (see Table 1). In the first condition, witnesses received no information concerning a co-eyewitness's identification decision (no information or control condition). In the second condition, witnesses were told that a co-eyewitness made the same identification (same condition). Witnesses in the third condition were told that the co-eyewitness identified a different person who looked similar to the witness's choice (different condition). Witnesses in the fourth condition were told that the co-eyewitness identified a different person who looked highly dissimilar to the witness's choice (implausibly different condition). In the fifth condition, witnesses were told that a co-eyewitness rejected the photospread because he/she felt the thief was not there (not there condition). In the sixth condition witnesses were initially told that a co-eyewitness identified a different person but subsequently notified that the co-eyewitness, in fact,
identified the same person they did (different/same condition). Witnesses in the seventh condition were initially told that a co-eyewitness identified the same person but subsequently notified that the co-eyewitness, in fact, identified a different person (same/different condition). Witnesses in the eighth condition were initially told that a co-eyewitness identified the same person but subsequently notified that the experimenter was not sure who the co-eyewitness identified (same/withdraw condition). In the ninth condition, witnesses were first told that a co-eyewitness identified a different person but were subsequently notified that the experimenter was not sure who the co-eyewitness identified (different/withdraw condition).

Procedure

Participants were tested in same-sex pairs. Upon arrival at the laboratory, the experimenter explained that the study was concerned with people's ability to match voices to faces. Participants were told that they would be asked to view a set of photographs while listening to a tape-recording with the goal of trying to match a photograph to each voice they heard on the tape. The experimenter then explained that the
photographs and taped interviews were provided by previous participants in the current experiment. She further explained that the task should be somewhat difficult because the tape would be played on a "voice modulator player", allegedly a piece of recording equipment that can create distortions in recorded voices, producing variations in pitch and intonation. This information was provided to enhance the believability of the ostensible theft of the equipment. Given the supposed value of this equipment, it would seem understandable that someone would steal it. The experimenter would understandably be distressed at its loss given the expense involved in replacing it. Participants were told that they would be given an opportunity to be photographed and taped while describing some of their life experiences after completing the photo-matching task. The experimenter explained that the recording equipment was set up in a room down the hall. She instructed participants to proceed to this room, explaining that she would be along shortly.

A confederate awaited them in this second room. Upon entering the room, the confederate glanced nervously in their direction then grabbed a large
piece of equipment and hurried from the room. Ten seconds later the experimenter entered the room carrying a cassette tape. She looked toward an empty table and turned a surprised gaze toward the two participants. She then began looking around the room in search of the recording equipment she had apparently expected to see on the empty table. At this point, many participants volunteered that they had seen someone leave the room with some equipment just before the experimenter arrived. If neither of the participants volunteered this information, the experimenter told them that she couldn't find the "voice modulator player". In every case, given this prompt, one of the participants told the experimenter about the confederate's hurried exit from the room. In response to this news, the experimenter asked the participants to wait while she searched the corridor for the person who took the equipment.

The experimenter then exited the room, waited outside the door for 20 seconds, then reentered and worriedly remarked that she was unable to find the young woman and must now notify the department chair about the missing equipment. She then lifted the receiver from a disconnected telephone and pretended
to talk to the chair about the missing equipment, noting aloud that there were two witnesses to the theft. She "listened" to the chair reply that he would notify campus security and instruct them to send someone over immediately to talk to the two witnesses. In order to keep the participants aware of what was developing, the experimenter acknowledged what the chair was allegedly saying by restating/confirming his ostensible end of the conversation in a voice loud enough for the participants to "overhear" her. The experimenter continued to "listen" to the chair explain that she should compile a list of all participants in the current experiment to give to the security officer to assist their investigation by informing them of people familiar with the laboratory and the equipment stored there.

The experimenter stated that she would put the list together right away. She noted that she also had photographs of everyone who had participated in the study which she could include with the list of names. Again, she "listened" to the department chair instruct her to show the photographs to the two witnesses on the chance that the thief was a participant in the study. The experimenter agreed and added that "it
must have been one of the participants in this study -- after all the only people who know anything about my missing equipment are people who have taken part in this study". The experimenter then replaced the receiver, turned to the participants and, without acknowledging their having overheard her talking on the phone, recounted her "conversation" with the department chair. She explained that the thief must have been a previous participant because the only people who knew about the stolen equipment were the experimenter herself and people who had taken part in the study. She reminded participants that she had photographs of every person who had taken part in the experiment and explained that she would show them these photos while they waited for campus security to arrive.

The experimenter explained that her file of photographs of participants in the current experiment was in another room. She asked if one person would accompany her to sort through the photographs while the second person remained in the room in order to answer the phone if the department chair or campus security should call. The experimenter and one participant exited the room, walked down the hallway,
then entered a second room where the photographs were allegedly stored. The experimenter rifled through a file cabinet in this room, then commented that she must have left the photographs in her office. She asked the participant to remain in the room while she retrieved the photographs from her office, then exited.

The experimenter returned to each witness in turn with a set of six photographs of "previous participants", explaining that only six women had previously participated in the experiment. The experimenter always claimed that she had already shown the photographs to the other participant. The effect of this was to lead each participant to believe that he/she was the second of the two witnesses to view the set of photographs. Witnesses were asked to identify the woman they had seen take the equipment from the room. In the hope of securing a high rate of false identifications, the experimenter implied that the thief must be present in the set of photographs and instructed witnesses to indicate "which of these women did it?". After recording the witness's decision, the experimenter provided him/her with one of nine types of information concerning the alleged identification
of the co-eyewitness to the event (see Table 1).

The nine types of information included: (1) no information about a co-eyewitness's decision, (2) an acknowledgment that a co-eyewitness "also identified her", (3) a statement that a co-eyewitness "said she wasn't one of these people", (4) an assertion that a co-eyewitness identified a different person (in this condition, the experimenter pointed to a photo of a woman who looked similar to the person the participant identified, i.e., a photo of a woman with the same hair and eye color, hair length, height, and build), (5) an assertion that a co-eyewitness identified an implausibly-different person (with this statement, the experimenter pointed to a photo of a woman who looked dissimilar to the participant's choice, i.e., a taller woman with a larger build and longer hair of a different color and texture).

The following four types of information were included in order to determine whether witnesses would persevere in their feelings of confidence concerning their identifications if they subsequently learned that they had been misinformed about a co-eyewitness's identification decision. These latter four conditions conveyed the following information: (6) The
experimenter first told the witness that a co-eyewitness "identified this woman" while indicating a photograph of a woman who looked similar to their choice. Two minutes later the experimenter explained that she "had the photos in a different order when she showed them to the other person". She corrected the original information, stating that "the other person, in fact, identified the same person that you did", (7) Two minutes after learning that a co-eyewitness had identified the same person, the experimenter explained that she "had the photos in a different order when she showed them to the other witness" and so was "not sure who the other person identified", (8) The witness was first told that a co-eyewitness had identified the same person. The experimenter two minutes later withdrew this information, stating that she "had the photos in a different order when showed them to the other witness" and so was "not sure who the other person identified", (9) The experimenter first told the witness that a co-eyewitness "identified this woman" while indicating a photo of a woman who looked similar to their choice. Two minutes later the experimenter corrected this information, stating that
TABLE 1
Experiment 1 — Design

1. **NO INFORMATION**
   witness receives no information regarding the identification of their co-witness

2. **SAME IDENTIFICATION**
   witness is told that co-witness IDed the same person

3. **NOT THERE**
   witness is told that their co-witness rejected the photospread because he/she did not believe the suspect was present

4. **DIFFERENT IDENTIFICATION**
   witness is told that their co-witness identified a different person (a person who looks similar to the one he/she identified)

5. **IMPLAUSIBLY-DIFFERENT IDENTIFICATION**
   witness is told that co-witness IDed a different person (one who looks dissimilar to their choice)

6. **DIFFERENT/SAME**
   witness is told that their co-witness identified a different person (a person who looks similar to the one he/she identified)
   the experimenter later corrects that information, stating that the other witness, in fact, identified the same person

7. **SAME/DIFFERENT**
   witness is told that co-witness IDed the same person
   the experimenter later corrects that information, stating that the co-witness, in fact, identified a different person (a person who looks similar to the one he/she identified)

8. **SAME/withdraw**
   witness is told that co-witness IDed the same person
   the experimenter later withdraws that information, stating that she is not sure who the co-witness IDed

9. **DIFFERENT/withdraw**
   witness is told that co-witness IDed a different person
   this information is later withdrawn
"the other witness, in fact, identified the same person you did".

Approximately 10 minutes after the experimenter placed the phone call to the department chair, a confederate, wearing a campus security uniform arrived. The "security officer" explained that she would like to question each witness individually about the theft. The officer continued to explain that it is now standard procedure to videotape all interviews in order to obtain a clear record of eyewitnesses' reports. Participants were asked to consent to being videotaped while responding to the officer's questions. All witnesses agreed.

The officer asked witnesses a series of questions concerning their memories of the theft (see Appendix A). The final question in this interview was a query concerning how confident witnesses felt about their identifications. The officer asked witnesses to quantify this response by providing a confidence estimate ranging from 1 to 10, where 1 was "not at all confident" and 10 was "very confident". At the conclusion of the interviews, participants were thanked for their participation and fully debriefed.
Results

Only 4 of the 140 witnesses did not make an identification. The analyses are based on the responses of witnesses who made an identification from the set of photographs.

Self-rated confidence

A one-way analysis of variance on self-rated confidence yielded a significant between-groups effect $F(8, 134) = 20.05, p<.0001$. The mean confidence ratings in the nine information conditions (see Table 1) were 6.90, 8.77, 3.57, 4.67, 7.87, 4.60, 8.33, 8.53, 6.13, respectively.

Subsequent Newman Keuls analyses indicated that, with one exception, every type of information produced a significant departure from providing participants with no information (see Figure 1). Informing witnesses that a co-eyewitness identified either the same person or a different person who looked dissimilar to their choice had the effect of inflating eyewitness confidence beyond no information. Reporting that a co-eyewitness either rejected the photospread or identified a different person who looked similar to their choice produced a decrease in eyewitnesses' confidence relative to no information.
Figure Caption

Figure 1  Self-rated confidence as a function of identification feedback  (Note: Means not sharing a common letter differ at $p<.05$)
The Newman Keuls analyses also indicate that witnesses generally persevered in the level of confidence that was induced by the original information rather than acquiring a level of confidence implied by the later "corrected" information. Consider, for example, the fact that the ID Same and ID Same/Different condition means did not differ significantly (means = 8.77 and 8.33, respectively), but both were significantly higher than the control (no information) condition (mean = 6.9). The ID Same and ID Same/Withdraw condition also yielded the same level of confidence as the ID Same condition (mean = 8.53) and was significantly higher than the control condition.

Perseverance effects were also apparent in the ID Different/ID Same condition (mean = 4.60) as the mean did not differ from the ID Different condition (mean = 4.67) whereas both means were significantly lower than the control condition mean. An exception to the perseverance pattern was found in the ID Different/Withdraw condition where the mean confidence in that condition (mean = 6.13) was significantly higher than the ID Different
condition and not significantly higher from the control condition mean.

Descriptions of the thief

A one-way analysis of variance on the number of details witnesses provided in their descriptions of the thief yielded a significant between-groups effect, $F (8, 126) = 6.22, p < .0001$. Subsequent Newman Keuls analyses indicated that eyewitnesses in the ID Same and ID Implausibly Different Other conditions provided more details when asked to describe the thief than did witnesses in the control (no information) condition. These were the only conditions in which the mean number of details provided differed from the control condition. The Same/Withdraw condition (mean = 7.80) did not differ from the ID Same and ID Implausibly Different Other conditions (means = 8.60 and 9.60, respectively) in terms of number of details provided.

Time estimates

Witnesses were asked to estimate the length of time the suspect was in view. A one-way analysis of variance on this measure failed to reveal a significant effect for co-witness information ($p > .60$).
Discussion

Experiment 1 tested the hypothesis that eyewitness confidence can be both raised and lowered by external sources. The results support this hypothesis. Eyewitness confidence was shown to be malleable in response to information concerning a co-eyewitness's identification decision.

Eyewitnesses who were told that a co-eyewitness identified the same person they did were more confident than witnesses who were told nothing about a co-eyewitness. After choosing someone from the photospread, eyewitnesses likely wanted to feel that they had made the "right choice", i.e., identified the culprit. Learning that another witness identified the same person might have helped. Just as we often "determine what is correct by finding out what others think is correct" (Cialdini, 1988, p. 110) so eyewitnesses in this study might have determined whether their identification decision was correct by finding out what other witnesses decided. Consistent with this idea, eyewitnesses who learned that a co-eyewitness disagreed with their choice and identified someone else -- a person who looked similar to their choice -- reported lower confidence ratings than
witnesses given no information.

The situation was different when witnesses were led to believe that a co-eyewitness had identified an implausibly different other. In this condition, eyewitness confidence was enhanced beyond no information. It was anticipated that witnesses would tend to treat the implausibly-different identification feedback similarly to no information. Why might witnesses have come to feel more confident upon learning that a co-eyewitness identified a different person who looked dissimilar to their choice?

This surprising result might be attributable to a "conservatism" or "anticipated regret" process going on in the control (no information) condition. In the control condition, witnesses might have given a conservative estimate of their confidence out of fear that they would regret appearing confident if the other witness had chosen the viable alternative. In the condition where witnesses learn that the co-witness identified an implausible person, on the other hand, witnesses are relieved of this possibility. This interpretation would be testable by having a condition in which there was no co-witness. If there was conservatism in the control condition owing to
uncertainty about what the other witness had done, a no co-witness condition should produce a higher mean level of confidence than the control condition.

There are alternative explanations for the fact that a co-witness's identification of an implausible alternative served to actually enhance, rather than merely nullify a decrease in confidence. One requires a comparison of the implausibly-different other condition with the different condition. In neither condition, did witnesses make their decisions quickly. Instead, they carefully considered two or three photos of similar-looking women before making their decisions. Learning that a co-eyewitness allegedly identified a different person who looked similar to their choice might have reminded witnesses of the difficulty they had had in choosing between the photo they selected and the one chosen by the co-eyewitness. Such memories would not have been stirred by informing witnesses that a co-eyewitness identified a dissimilar-looking other. Rather, such information would more likely have caused witnesses to doubt the credibility of the co-eyewitness rather than the accuracy of their identification. The co-eyewitness identified someone who was not even seriously
considered by the witness because she looked so
dissimilar to their memories of the thief (i.e., they
remembered a woman with blonde hair and the co-
eyewitness identified a brunette). Eyewitnesses here
did more than simply dismiss this witness's
identification. Their confidence improved beyond that
of witnesses given no information.

This fits with a finding from the illusion of
control literature. Some of the research in this area
has focused on gambling or games of chance situations.
Eyewitness identification situations share the element
of uncertainty characteristic of these situations.
Just as players in a game of chance can never be
certain that they have chosen the winning outcome, so
eyewitnesses can never be certain that they have
identified the culprit from a lineup. In both
situations, there is no one who can confirm that the
gambler or the eyewitness has made the "right choice".

In gambling and eyewitness identification
situations, only one choice will "pay off" with a
prize or lawful conviction, respectively. If game
players discover that they have placed a different bet
than another player they must realize that they are
not both going to win. Similarly, if eyewitnesses
discover that a co-eyewitness identified someone else, they must realize that they cannot both be accurate. In both situations information concerning an opponent's bet or a co-eyewitness's identification might be expected to influence one's confidence in having made a "good choice". Langer (1977) has demonstrated that people feel more confident about the likelihood of winning a game of chance against a novice nervous gambler than against an experienced confident opponent. Similarly, witnesses in the current study might have felt more confident upon learning that a co-eyewitness of questionable credibility effectively placed a different bet in disagreeing with their lineup choice.

There was another condition in this study in which eyewitness confidence decreased when witnesses were told that a co-eyewitness disagreed with their lineup decision. In this condition, witnesses were told that a co-eyewitness did not make an identification because he or she did not believe the culprit was present in the set of photos. This feedback reduced eyewitness confidence relative to no information. In fact, relative to the control condition, the "not there" condition had more impact
on witnesses' confidence than any other condition.

Why would the "not there" condition have such a strong impact? It has been argued that eyewitnesses approach identification tasks with an implicit assumption that the target in question is present among the alternatives (Wells, 1984). As a result, target-absent lineups like the one used in the current study, tend to produce high false identification rates (see Lindsay & Wells, 1980), especially when witnesses are not forewarned that the culprit might not be present (Malpass & Devine, 1981a). In addition, a none-of-the-above type response was, in fact, the correct answer for witnesses to make in response to the identification task. It is perhaps not surprising that the condition that had the greatest impact on witnesses' confidence levels was the one in which witnesses were told that the co-witness said the thief was not among the pictures. Not only did witnesses possibly realize that this was something they failed to consider, but they might have also realized that the none-of-the-above response was probably the correct answer. In fact, four of the fifteen witnesses in this condition actually retracted their identifications when later questioned by the security
officer, the only condition in which retractions occurred.

Were the effects of co-witness information on confidence derived from social support (e.g., an "ally" effect) or were these effects due to the informational value of the co-eyewitness's behavior and thereby internalized? The results suggest that the changes in confidence observed in the current study were due to something more than social support from a co-eyewitness. An analysis of the testimonies across conditions indicates that the increases in eyewitness confidence that were observed when witnesses were told either that a co-eyewitness identified the same person or an implausibly different other were accompanied by qualitative differences in testimony. Witnesses in these two conditions provided more detailed descriptions of the thief than did witnesses given no information about a co-eyewitness. Yet, the viewing conditions were held constant across conditions. This suggests that the feedback in these two conditions not only altered witnesses' confidence about their identifications but also changed their recollections of the witnessed event. Witnesses in the Same ID and Implausibly-Different ID conditions
came to believe that they had a better memory for the thief than did witnesses in the No Information condition and thus provided more detailed descriptions. On the other hand, it is possible that a feeling of social support simply made these subjects more willing to offer a detailed rather than sketchy description.

Perhaps the strongest evidence against the notion that these effects derive from mere social support is the fact that the "Implausibly-Different ID" condition produced inflated confidence rather than deflated confidence. Were it the case that confidence increased and decreased merely because there was or was not an ally for the witness, confidence should have been deflated by news that a co-witness identified someone else. A social support explanation would predict similar confidence-deflating effects for co-witness identifications of similar and dissimilar others.

Were it simply a matter of social support, witnesses who were subsequently told that the original feedback they had received was incorrect should have adjusted their reported confidence to be consistent with the degree of social support associated with the
updated information. For example, witnesses who felt comfortable stating high confidence merely because a co-eyewitness agreed with their choice should have lost this feeling upon losing the social support of this witness, i.e., upon learning that they had been misinformed, that the co-eyewitness actually identified someone else. This did not happen. Eyewitnesses whose confidence was either raised or lowered by information concerning the alleged identification decision of a co-eyewitness generally persevered in those levels of confidence. Their confidence ratings did not increase or decrease as a function of their learning subsequently that they had either gained or lost the social support of a co-eyewitness. Hence, it appears that the effect was internalized at some level that exceeded mere social support.

There was one exception to this perseverance finding. Specifically, perseverance was not observed among witnesses for whom the original information stating that the co-witness identified a different person was withdrawn (experimenter claimed that she "was not sure who the other person identified"). In this case, eyewitnesses reported feeling as confident
as witnesses given no information about a co-eyewitness. There is no simple explanation for this finding. It cannot be explained by a tendency among witnesses to, in the absence of any contrary evidence, believe they had made accurate identifications. If this were the case, witnesses whose confidence was reduced by learning that a co-eyewitness identified a "similar other" should have rebounded from that low level of confidence upon learning that the co-eyewitness had actually agreed with their choice. Yet, this did not happen. Witnesses in this "corrected information" condition were no more confident than witnesses who received only the confidence-deflating news that a co-eyewitness identified a "similar other".

Why then did eyewitness confidence rise when the experimenter updated the confidence-deflating news, stating that she "was not sure who the other person identified" but remain low when the updated information assured witnesses that "the other person actually identified the same woman you did"? Perhaps witnesses in this latter condition did not believe the updated information for the following reason. Perhaps they questioned the sincerity of the experimenter when
she updated the confidence-deflating news. Witnesses might have felt that the experimenter revised the information only to help them feel better or recover some of their confidence in their memories for the event. Again, however, this fails to explain why witnesses persevered in the other condition where the co-witness information was subsequently withdrawn ("same/withdraw" condition). Therefore, at this point, there is no clear explanation for the apparent lack of perseverance in the "different/withdraw" condition.
EXPERIMENT TWO

The purpose of Experiment 2 was to examine the effects of the different types of information concerning a co-eyewitness's identification decision on jurors' perceptions of eyewitness credibility. Experiment 1 demonstrated that eyewitness confidence can be both raised and lowered by providing witnesses with information concerning the identification decision of a co-eyewitness. Experiment 2 was designed to assess what implications these changes in confidence would have for jurors' evaluations of the witnesses' testimonies. Would the feedback manipulation extend beyond witnesses' self-rated confidence to jurors' perceptions of eyewitness credibility?

Experiment 2 addressed this question by presenting the testimony videotapes to subject-jurors, asking them to evaluate the eyewitnesses' perceived credibility. The subject-jurors of this second experiment never experienced the feedback manipulation directly. Instead, their experience with this variable could come only through the words and
demeanor of the witnesses who had experienced these manipulations.

Previous research showing that eyewitness confidence is closely associated with perceived accuracy, believability, and credibility has been primarily correlational (i.e., simply documenting that witnesses who are more confident tend to also be perceived as more credible). Here the question is whether manipulated confidence affects perceived credibility. As noted previously, the current research is only the second investigation of confidence malleability. It is the first study of the role of social influence in eyewitness certainty. Given the array of social influences that could potentially affect eyewitness confidence (e.g., co-eyewitnesses, police officers, and attorneys) and the power of this variable to influence jurors' assessments of eyewitness credibility, it is important to determine how manipulated confidence affects both witnesses and jurors. Experiment 1 yielded some understanding of social influence and eyewitness confidence. Experiment 2 provides insight into social influence and jurors' assessments of eyewitness credibility.
Participants and Design

Three hundred and seventy-eight undergraduate students participated in exchange for extra course credit. Participants were told that a participant in a previous experiment had witnessed a theft from one of the experimenter's laboratories. The experimenter explained that this witness had first identified the thief from a set of photographs and then responded to a campus security officer's questions concerning their memories for the event while being videotaped. Participants were told that their task was to view the videotaped testimony and then complete a questionnaire concerning their impressions of the witness's credibility. The design was the same as in Experiment 1 in that there were 9 conditions: (1) No Information, (2) Same ID, (3) Not There, (4) Different ID, (5) Implausibly Different ID, (6) Different/Same, (7) Same/Difference, (8) Same/Withdraw, (9) Different/Withdraw (see Table 1). Experiment 2 participants, however, were never told about the co-witness information witnesses had received. Instead, as noted previously, their experience with this variable could come only through the words and demeanor of the witnesses.
Procedure

Participants were tested in groups of 2 - 4. Each person was seated in front of a television monitor and asked to watch one of the Experiment 1 testimony videotapes. After viewing the videotaped testimony, participants were asked to judge the following (on 7-point scales): (1) the extent to which they believed the witness made an accurate identification, (2) the extent to which they believed the witness was accurate in his/her description of the physical characteristics of the thief, (3) how detailed was the witness's description of the thief, (4) how good was the witness's view of the thief (see Appendix B), (5) the confidence of the witness in testifying (6) the accuracy of the witness's testimony, (7) the believability of the witness's testimony, (8) "the extent to which the witness was able to persuade you that he/she had a good memory for the witnessed event" (see Appendix C). These measures will hereafter be referred to as: (1) perceived identification accuracy, (2) perceived description accuracy, (3) description detail, (4) perceived view, (5) examination confidence, (6) examination accuracy, (7) believability, and (8) testimony persuasiveness,
Participants also responded to a questionnaire concerning their willingness to convict the accused on the basis of the witness's testimony, subsequently called the "conviction measure". This measure asked subject-jurors to indicate their willingness to convict the accused given pieces of evidence that varied in terms of how incriminating they were. For example, participants were asked whether they would be willing to convict the accused if (1) the accused was found in the vicinity of the crime or (2) the stolen equipment was found in the accused's apartment (see Appendix D). The categories of information were structured to be successively increasing in terms of how incriminating the information contained therein was. This was accomplished by adding new evidence at each level.

**Results**

Initial analyses of the correlations among the eight primary measures, namely perceived identification accuracy, perceived description accuracy, description detail, perceived view, perceived examination confidence, perceived examination accuracy, believability, and testimony
persuasiveness were conducted. These correlations are reported in Table 2. These measures were all highly intercorrelated (all ps < .001). This pattern of correlations indicated that a multivariate analysis of these measures would be appropriate.

Multivariate effects

A Multivariate Analysis of Variance (MANOVA) of Identification Feedback on subject-jurors' ratings of perceived identification accuracy, perceived description accuracy, description detail, perceived view, examination confidence, examination accuracy, believability, and testimony persuasiveness yielded a significant main effect for identification feedback, Wilk's Lamda = .48, $F(7, 363) = 83.32, p < .0001.$

Perceived identification accuracy

Mean ratings by subject-jurors for witnesses from the nine information conditions (see Table 1) were 4.16, 5.00, 2.68, 3.05, 4.85, 2.69, 5.07, 5.40, 3.55, respectively. Newman-Keuls analyses revealed that witnesses who were told that a co-eyewitness identified either a "dissimilar other" or the same person they did were perceived as more likely to have made an accurate identification than witnesses given no information ($p < .05$). This effect held in the two
Table 2
Correlations Among Dependent Measures

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Note: All correlations significant at $p < .0001$.  

I. ID accuracy  
II. Description accuracy  
III. Detail  
IV. View  
V. Examination confidence  
VI. Examination accuracy  
VII. Believability  
VIII. Persuasiveness  
IX. Conviction measure
conditions where the confirmatory feedback was subsequently corrected. That is, witnesses who were first told that a co-eyewitness identified the same person they did and subsequently provided with revised information suggesting either that the co-eyewitness identified a "similar other" or that the experimenter "was not sure who the other person identified" were also perceived as more accurate in their identifications than witnesses who were given no information (p < .05). These results are displayed in Figure 2. Witnesses who were told that a co-eyewitness either rejected the photospread or identified a "similar other" were perceived as less likely to have made an accurate identification than witnesses who were given no information (p < .05). Witnesses for whom the information that a co-eyewitness had identified a "similar other" was later either withdrawn (experimenter was "not sure who the other person identified") or corrected ("the other person actually identified the same person you did") were also seen as less likely to have correctly chosen the thief from the lineup than witnesses who were given no information (p < .05) (see Figure 2).
Figure Caption

Figure 2  Perceived identification accuracy as a function of identification feedback  (Note: Means not sharing a common letter differ at p<.05)
Perceived description accuracy

Mean ratings by subject-jurors for witnesses from the nine information conditions were 4.26, 4.77, 3.38, 3.45, 5.18, 3.39, 4.97, 4.81, 4.13, respectively. Eyewitnesses who were told that a co-eyewitness identified a "dissimilar other" were judged as having provided more accurate descriptions of the thief than witnesses who were given no information (p < .05). This was also true of witnesses in the "same/different" condition (see Figure 3).

Witnesses who had been told either that a co-eyewitness rejected the photospread or that a co-eyewitness identified a "similar other" were perceived as less accurate in their descriptions of the thief than witnesses who were given no information (p < .05). This perception of reduced accuracy relative to witnesses who received no information also held for witnesses who were first told that a co-eyewitness identified a "similar other" then subsequently informed that the co-eyewitness actually identified the same person they did (p < .05). Witnesses given no information did not differ from witnesses who were told that a co-eyewitness identified the same person they did or for whom this
Figure Caption

Figure 3  Perceived description accuracy as a function of identification feedback (Note: Means not sharing a common letter differ at $p<.05$)
PERCEIVED DESCRIPTION

ACCURACY

INFORMATION

no same not diff im- diff/same/same/diff/
info ID there ID plus same diff with with

75
information was subsequently corrected ("same/different" condition). Nor did witnesses who were given no information differ from witnesses in either of the two conditions where the original information was subsequently withdrawn (experimenter was "not sure who the other person identified") in terms of perceived description accuracy (see Figure 3).

**Description detail**

Mean ratings by subject-jurors for witnesses from the nine information conditions were 3.02, 3.74, 2.15, 2.74, 4.13, 2.69, 3.63, 3.91, 2.81, respectively. Witnesses who were told that a co-eyewitness either agreed with their identification or identified an "implausible other" were judged as having provided more detailed descriptions of the thief than witnesses who were given no information (p < .05). This was also the case for witnesses who were initially told that a co-eyewitness agreed with their identification but for whom this information was subsequently either corrected ("same/different" condition) or withdrawn ("same/withdraw" condition) (p < .05) (see Figure 4).

Witnesses who were told that a co-eyewitness rejected the photospread were judged as having
Figure 4  Description detail as a function of identification feedback (Note: Means not sharing a common letter differ at p<.05)
provided less detailed descriptions of the thief than witnesses who were given no information \((p < .05)\). The descriptions of witnesses from every remaining feedback condition were judged as accurate as descriptions provided by witnesses who were given no information (see Figure 4).

**Perceived view**

Mean ratings by subject-jurors for witnesses from the nine information conditions were 3.51, 4.40, 2.25, 2.95, 4.41, 3.00, 4.66, 4.53, 3.47, respectively. Witnesses from the following conditions were perceived as having had a better view of the thief than witnesses who were given no information: (1) witnesses were told that a co-eyewitness agreed with their identification, (2) witnesses were told that a co-eyewitness identified a different person who looked dissimilar to their choice, (3) witnesses were initially told that a co-eyewitness identified the same person but subsequently informed that the co-eyewitness identified a different person who looked similar to their choice, (4) witnesses were initially told that a co-eyewitness identified the same person but subsequently informed that the experimenter was
not sure who the co-eyewitness identified (all $p$s < .05) (see Figure 5).

Witnesses who were told that a co-eyewitness rejected the photospread were perceived as having had a poorer view of the thief than witnesses who were given no information ($p < .05$). Witnesses who were told that a co-eyewitness identified a similar other or for whom this original information was subsequently corrected (experimenter claimed that the co-eyewitness actually identified the same person they did) or withdrawn (experimenter claimed she was not sure who the co-eyewitness identified) were perceived as having had an equally good view of the thief as witnesses who were given no information ($p$s < .05) (see Figure 5).

Testimony accuracy

Mean ratings by subject-jurors for witnesses from the nine information conditions were 3.98, 4.67, 3.53, 3.62, 4.97, 3.31, 4.94, 4.83, 3.87, respectively. Witnesses from the following conditions were perceived as having provided more accurate testimony than witnesses who were given no information: (1) witnesses who were told that a co-eyewitness agreed with their identification, (2) witnesses who were told that a co-eyewitness identified a different person who
Figure Caption

Figure 5  Perceived view as a function of identification feedback (Note: Means not sharing a common letter differ at p<.05)
looked dissimilar to their choice, (3) witnesses who were initially told that a co-eyewitness agreed with their identification but subsequently informed that the co-eyewitness actually identified a different person who looked similar to their choice, (4) witnesses who were initially told that a co-eyewitness agreed with their identification but subsequently informed that the experimenter was not sure who the co-eyewitness identified ($p < .05$) (see Figure 6).

The testimony of witnesses who were told that a co-eyewitness either rejected the photospread or identified a different person who looked similar to their choice was perceived as equally accurate as testimony provided by witnesses who had received no information. This was also true of witnesses who were initially told that a co-eyewitness identified a "similar other" but subsequently informed that the co-eyewitness either identified the same person they did or that the experimenter was not sure who the co-eyewitness identified (see Figure 6).

**Perceived examination confidence**

Mean ratings by subject-jurors for witnesses from the nine information conditions were 4.33, 5.09, 3.10, 3.41, 5.26, 3.33, 5.09, 5.02, 3.98, respectively.
Figure Caption

Figure 6 Examination accuracy as a function of identification feedback (Note: Means not sharing a common letter differ at p<.05)
Witnesses who were told that a co-eyewitness identified a different person who looked dissimilar to their choice were perceived as more confident in testifying than witnesses who were given no information (p < .05) (see Figure 7).

Witnesses who were told that a co-eyewitness either rejected the photospread or identified a different person who looked similar to their choice or for whom this latter information was subsequently either corrected (witness actually identified the same person they did) or withdrawn (experimenter was not sure who the other witness identified) were perceived as less confident in testifying than witnesses who were given no information (ps < .05) (see Figure 7).

Witnesses who were told that a co-eyewitness agreed with their identification or for whom this information was subsequently either corrected ("same/different" condition) or withdrawn ("same/withdraw" condition) (ps < .05) were seen as equally confident in testifying as witnesses who were given no information (see Figure 7).
Figure Caption

Figure 7  Perceived examination confidence as a function of identification feedback  (Note: Means not sharing a common letter differ at p<.05)
Believability

Mean ratings by subject-jurors for witnesses from the nine information conditions were 4.70, 4.88, 3.88, 4.05, 5.49, 3.94, 5.29, 5.06, 4.43, respectively. A one-way analysis of variance on believability revealed a significant between-groups effect, $F(8, 369) = 14.03, p < .05$. However, a subsequent Newman-Keuls analysis indicated that witnesses from every feedback condition were perceived as equally believable as witnesses who were given no information (see Figure 8).

Testimony persuasiveness

Mean ratings by subject-jurors for witnesses from the nine information conditions were 3.68, 4.61, 2.73, 3.14, 4.97, 3.00, 4.69, 4.55, 3.32, respectively. Subject-jurors judged witnesses from the following conditions as more persuasive in communicating a good memory for the witnessed event than witnesses who received no information: (1) witnesses who were told that a co-eyewitness agreed with their identification, (2) witnesses who were told that a co-eyewitness identified a different person who looked dissimilar to their choice, (3) witnesses who were initially told that a co-eyewitness agreed with their identification
Figure Caption

Figure 8  Believability as a function of identification feedback
but subsequently informed that the co-eyewitness actually identified the same person they did, (4) witnesses who were initially told that a co-eyewitness identified the same person they did but subsequently informed that the experimenter was not sure who the co-eyewitness identified (all ps < .05) (see Figure 9).

Witnesses who were told that a co-eyewitness rejected the photospread were perceived as less persuasive in communicating an accurate memory for the witnessed event than witnesses who received no information (p < .05). Witness who were told that a co-eyewitness identified a different person who looked similar to their choice and witnesses for whom this information was subsequently either corrected (co-eyewitness actually identified the same person) or withdrawn (experimenter claimed that she was not sure who the other person identified) were perceived as equally persuasive in communicating an accurate memory for the event than witnesses who received no information (see Figure 9).

**Conviction measure**

Mean ratings by subject-jurors for witnesses from the nine information conditions were 3.88, 4.43, 3.44,
Figure Caption

Figure 9  Testimony persuasiveness as a function of identification feedback (Note: Means not sharing a common letter differ at p<.05)
PERSUASIVENESS

no same not diff im- diff/same/same/diff/
info ID there ID plaus same diff with with

INFORMATION
Figure Caption

Figure 10  Willingness to convict as a function of identification feedback  (Note: Means not sharing a common letter differ at p<.05)
WILLINGNESS TO CONVICT

INFORMATION

no same diff im- not diff/same/same/diff/
info ID ID plaus there same diff with with

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0

a ab a ab a a b ab ab
3.77, 4.15, 3.82, 4.86, 4.44, 4.22, respectively. Subjects were more willing to convict the accused when she had been identified by one of the witnesses who were initially told that a co-eyewitness agreed with their identification but subsequently informed that the witness had actually identified a different person than when she was identified by one of the witnesses who had received no information (p < .05). All remaining feedback conditions did not differ from the no information condition. These results are displayed in Figure 10.

**Discussion**

Experiment 1 demonstrated that eyewitness confidence can be both raised and lowered by providing witnesses with information concerning the identification decision of a co-eyewitness to a theft. The findings of Experiment 2 indicate that the information concerning a co-eyewitness's identification decision not only affected eyewitnesses' confidence ratings but also affected jurors' assessments of these witnesses' credibility.

The effects of the identification feedback extended beyond eyewitnesses' self-rated confidence to jurors' ratings on every credibility measure except
believability. None of the types of information produced a significant departure from the control (no information) condition for subject-jurors' ratings of believability. Perhaps this is because subject-jurors failed to attach the intended meaning to this measure. Jurors may have interpreted believability to mean honest or trustworthy. However, the feedback manipulation was not expected to produce differences in perceptions of witnesses' propensity to truthfully recount their memories for the theft. Believability is not included in any of the following discussion of perceived credibility.

Witnesses in the Implausibly-Different ID condition were always perceived as more credible than witnesses given no information. This follows the pattern observed in Experiment 1 where witnesses in the Implausibly Different ID condition were more confident about their identifications than witnesses in the control condition. With this type of information, heightened self-rated confidence evidently translated into heightened perceived credibility.

The other types of information produced credibility ratings that varied somewhat from the
pattern of witnesses' self-rated confidence across information conditions. In no case did the feedback manipulation produce credibility ratings completely contrary to the confidence ratings of the first experiment. That is, in no case did jurors either (1) perceive witnesses whose confidence increased relative to the control condition as less confident than control condition witnesses or (2) perceive witnesses whose confidence decreased as more confident than control condition witnesses. Instead, in some information conditions, jurors perceived witnesses whose confidence either increased or decreased as a function of their information they received as no more credible than witnesses who received no information.

Overall, the feedback effects observed in this second experiment are generally consistent with the findings of Experiment 1. That is, subject-jurors' credibility ratings generally parallel witnesses' confidence ratings. The fact that the credibility ratings did not exactly match the witnesses' confidence ratings is not surprising, given that none of the credibility measures exactly matched the measure of witnesses' self-rated confidence. Whereas subject-witnesses rated their confidence in having
accurately identified the thief, subject-jurors were not asked to estimate witnesses' identification confidence. Instead, subject-jurors were asked to make more ecologically valid assessments (e.g., to what extent they believed the witness had made an accurate identification, how believable and accurate was the witness's testimony).

For the credibility measure most closely related to self-rated confidence, perceived identification accuracy, the pattern of jurors' ratings was almost identical to that of witnesses' own confidence ratings (see Figures 1 and 2). There was only one difference in the pattern of results observed among witnesses and jurors. This discrepancy lies in the condition where witnesses were initially told that a co-eyewitness identified a different person and subsequently informed that the experimenter was actually not sure who the co-eyewitness identified. Self-rated confidence was deflated by the initial news but the subsequent news restored it to the same level observed among witnesses who received no information. Subject-jurors seemed insensitive to this rise in confidence. They rated this group of witnesses as less likely to have made a correct identification than witnesses who
were given no information and no more likely to be accurate than witnesses in the Different/Same condition.
GENERAL DISCUSSION

This research was designed to test the hypothesis that eyewitness confidence can be either raised and lowered by external, interpersonal sources. The results provide support for this hypothesis; eyewitness confidence was successfully raised or lowered by providing witnesses with information concerning the identification decision of a co-witness to a staged theft.

The feedback effects observed in the first experiment suggest that a simple statement by a co-witness can serve as a powerful source of social influence in eyewitness identification situations. In this study, the co-witness information served as a source of informational social influence. That is, witnesses used it to gauge the appropriateness of their lineup choices and thus derive a sense of certainty in having made an accurate identification.

It is interesting to note that eyewitness confidence reached levels as high as 8.77 on a 10-point scale (Implausibly-Different ID condition) in a situation where all witnesses made false identifications. Despite the fact that all witnesses
made false identifications, in the "same" condition, 93% of subjects gave confidence ratings of 8 or above on a 10-point scale whereas only 7% did so in the "not there" condition. This study shows that extreme amounts of systematic variance can be attributed to social influence factors.

Would social influence factors produce such robust changes in confidence in actual eyewitness identification situations? The incidence of false identifications (96%) observed in the current study would not be expected in actual eyewitness situations. Recall that in this study a target-absent lineup combined with biased lineup instructions were used to obtain false identifications. In actual cases, where unbiased instructions and target-present lineups are used, some unknown, perhaps high, percentage of accurate identifications would be obtained (Malpass & Devine, 1981a).

Confidence associated with correct identifications might be less malleable than certainty in inaccurate identifications. Indeed, the Wells et al. (1979) confidence malleability study found that their manipulation of confidence produced statistically significant increases in expressed
confidence for inaccurate but not accurate eyewitness identifications. Note, however, that whereas the Wells et al. study dealt exclusively with increases in eyewitness certainty, the current research examined both increases and decreases in eyewitness certainty. It might be the case that certainty in accurate identifications cannot be enhanced by social factors because of a ceiling effect for accurate eyewitness identifications. Perhaps certainty in accurate identifications can be reduced by social factors.

Aside from the administration of the lineup, however, the current study is very high in ecological validity. Indeed, witnesses were led to believe that the crime was real and that their identifications and testimony would be used to aid the investigation of the theft. The current findings then probably do generalize to actual cases where two witnesses to a crime each learn of the identification decision of the other.

What Is Eyewitness Confidence?

The current findings suggest an answer to the question of what is eyewitness confidence. As noted previously, no research has yet defined eyewitness confidence beyond saying that it is a witness's belief
in the accuracy of his or her testimony. The present results clearly demonstrate that eyewitness identification certainty is not merely a statement by the witness of the extent to which the identified person resembles the witness's memory for the culprit. Any degree of resemblance (or lack thereof) between the witness's recollection of the culprit and the person identified by the witness was randomized across the nine conditions of the experiment. The large and reliable differences in eyewitness certainty across conditions owe instead to social influence processes that were triggered by information regarding the identification behaviors of the co-witness.

Recall the distinction noted previously between primitive and nonprimitive beliefs. Whereas primitive beliefs derive from direct contact with the belief object, nonprimitive beliefs are derived from inferences that arise from factors other than direct experience with the belief object. Although primitive beliefs might be associated with high levels of certainty and be largely intractable, nonprimitive beliefs can be quite tractable as a function of new information.

The results of this research suggest that
eyewitness identification confidence is the strength or intensity of a nonprimitive belief that the identified person and the culprit are one and the same person. Witnesses derived their beliefs in having made an accurate identification from the co-witness information, rather than from their memories for the culprit. Their confidence was indeed tractable as a function of the co-witness information they received.

The Process Underlying Changes in Confidence

A primary goal of this research was to examine the process underlying changes in confidence arising from external, social forces. The results suggest that the changes in certainty that resulted from the feedback manipulation were not due to a simple notion of social support wherein certainty increased or decreased merely because there was or was not an ally for the witness. Instead, it appears that the changes in certainty became somewhat autonomous from the co-witness information.

The fact that the implausibly different condition increased rather than decreased the witnesses' confidence indicates that certainty is not a simple ally effect. Furthermore, witnesses in the Same ID and Implausibly-different ID conditions provided more
detailed descriptions of the thief than did witnesses in the control (No information) condition. Yet, the viewing conditions were held constant across conditions. These witnesses then did not actually see more and thus remember more about the theft but rather came to believe that they could remember more because of the feedback they had received. Finally, if the changes in confidence were due to social support, witnesses who were told initially that the co-witness had identified the same person and then were told that this information was incorrect (e.g., that the witness actually had identified a different person), should have lowered their certainty ratings owing to a loss of an ally. Instead, however, the inflated confidence persevered. This perseverance effect occurred in spite of the fact that witness certainty was not measured until after the corrected information was given to the witness. Hence, it seems that the effects of co-witness information on witness certainty became somewhat autonomous from the information itself.

These data suggest one reason why eyewitness certainty and eyewitness identification accuracy are not likely to be well correlated by the time witnesses
take the stand in actual cases. Specifically, eyewitnesses might commonly learn about the identification decisions of other witnesses prior to the trial or learn about other evidence that is consistent or inconsistent with their identification decision. An eyewitness, for example, might make a tentative identification and later learn that the suspect was in possession of stolen goods or that he or she had committed a similar offense in the past. The perseverance finding suggests that even if post-identification information subsequently proves to be wrong, the effect of that information might live on nonetheless. For example, if initial reports by police indicated that the identified person was found in possession of the stolen goods and, prior to trial, the witness learned that those were actually not the stolen goods, any certainty-inflating effects might not be eliminated by the new, corrected information.

Implications of Confidence Malleability

Any changes in eyewitness identification confidence by external, social factors likely perpetuate additional effects in other situations (e.g., in preliminary hearings, in court). Experiment 2 demonstrated that the co-witness information not
only affected eyewitnesses' confidence ratings but also affected jurors' ratings of these witnesses' credibility. In some conditions, a simple statement from a co-witness produced significant increases in the perceived credibility of inaccurate witnesses.

Clearly, changes in eyewitness certainty, without corresponding changes in accuracy, pose as serious a threat to jurors' ability to distinguish accurate from inaccurate identification testimony as do changes in eyewitness memory. The United States judiciary has ruled that confidence should be used to infer testimony accuracy (Neil v. Biggers, 1972). The current findings suggest that we should not necessarily expect a relationship between eyewitness identification accuracy and certainty. Social influences can alter eyewitness confidence independently of accuracy, thereby eliminating any relationship between confidence and accuracy that might already exist.

Any such adjustments that witnesses make in their level of confidence probably weaken the probative value of eyewitness identification testimony because triers of fact will be likely to "double count" the evidence. That is, they will likely treat two pieces
of correlated evidence as though they are independent, thus assigning more weight to the evidence than is warranted.

In the current study, for example, witnesses came to feel more certain about their identifications upon learning that their co-witness identified the same person they did. Were it a real case, two witnesses would have been shown to have identified the same defendant. Such agreement is likely to be highly incriminating in the minds of jurors. In addition, jurors would likely be more impressed by the fact that both witnesses are highly confident. If the witnesses' confidence levels were truly independent of the fact that they agreed (e.g., each was unaware of the identification made by the co-witness), jurors would be appropriately impressed. On the other hand, if the confidence levels are not independent, then high confidence occurs because of agreement and counting confidence as additional probative evidence is "double counting" and misleading.
PRACTICE AND POLICY IMPLICATIONS

One clear recommendation from the current results is that police should routinely obtain statements from witnesses when they make identifications prior to the possible interfering effects of post-identification information.

Previous research has shown that a witness's memory of the perpetrator's face can be altered by a co-witness's statement concerning the perpetrator's appearance (Loftus & Greene, 1980). Loftus and Greene demonstrated that memories for particular details such as hair texture or facial hair may be altered by co-witness information concerning the perpetrator's appearance. Consistent with this finding, current legal practice is to keep witnesses separate until identifications are made.

The current research suggests that perhaps witnesses should be kept apart even after they have made their identifications. Informing each other of their respective identification decisions could alter witnesses' confidence in their identifications. Such alterations in confidence could, in turn, influence jurors' perceptions of the witnesses' credibility.
The current findings also suggest a recommendation concerning the post-identification interactions between police officers and eyewitnesses. Recall that in this research the co-witness information was not communicated directly from one witness to another. Instead, the experimenter was responsible for providing the information that produced such dramatic shifts in eyewitness certainty. This finding suggests that police officers should be cautioned to maintain the confidentiality of each witness's identification decision.

Realistically, however, this confidentiality could not be guaranteed. Even if police were to withhold this information from witnesses, the witness could still learn about a co-witness's identification (or other evidence that is either consistent or inconsistent with their identification) from media reports concerning the witnessed-event. Thus, it seems more reasonable to recommend that police routinely take statements of certainty from witnesses when they make their identifications prior to the possible interfering effects of post-identification information.

The legal system is particularly concerned about
the dangers of making judicial rulings that could have
the effect of producing an incentive for one or the
other side in a legal dispute to distort evidence.
The U. S. Supreme Court's ruling in Neil v. Biggers
(1972) could have such an adverse incentive effect.
In its failure to specify some limiting conditions
(such as being wary of eyewitness certainty when it is
assessed after the eyewitness has had a chance to be
influenced by other information), the Court has given
police and prosecutors considerable leeway for
exercising arbitrary influence over the credibility of
identification evidence. Although scientific studies
of eyewitness behavior were virtually absent when the
Court made its ruling, the two decades post Neil v.
Biggers have produced a body of knowledge that calls
for a more coherent, complete, and scientifically
defensible statement from the Court on the matter of
eyewitness certainty.
SUGGESTIONS FOR FUTURE RESEARCH

Future research could be designed to yield an understanding of why learning that a co-witness identified an implausible alternative enhanced, rather than merely nullified a decrease in confidence. As noted previously, this result might be attributable to a "conservatism" process going on in the control (no information) condition. Witnesses given no information might have provided conservative estimates of their confidence because they feared that they would regret appearing confident if their co-witness had chosen the viable alternative. This interpretation could be tested by including a condition in which there was no co-witness. If there was conservatism in the control condition owing to uncertainty about what the other witness had done, a no co-witness condition should produce a higher mean level of confidence than the control condition.

Future research could also address the issue of the role of characteristics of the co-witness in the impact of co-witness information on eyewitness certainty. What if the identification task was structured such that the co-witness obtained a better or worse view of the perpetrator? Would the
confidence-altering effects remain unchanged? Or would eyewitnesses consider the "goodness" of the view that their co-witness had in the same way that people are sensitive to the expertise of the source of information?

Characteristics of the source of the information could potentially influence the persuasive power of the information. To the extent that viewing conditions are regarded as an index of co-witness credibility, co-witnesses perceived as having had a better view of the perpetrator should more powerfully influence a witness's identification confidence than should witnesses afforded a worse view (see Petty & Cacioppo, 1986) for a discussion of source characteristics in persuasion).

The current research involved only one co-witness. In actual cases, there may be multiple witnesses to an event. Future research could assess the impact of more than one piece of co-witness information on eyewitness confidence. For example, a study varying the number of co-witnesses could be designed to compare a control (no information) with conditions wherein (a) one co-witness agrees and the second disagrees with the witness's identification,
(b) two co-witnesses agrees but a third disagrees with the witness's identification, and so on.

Further studies could introduce a delay interval to the current study. It is possible that witnesses in this study were not given enough time to really think about how confident or nonconfident they were before getting the co-witness information. If this were the case, witnesses might prove resistant to the confidence malleability effects of co-witness information given a delay interval long enough for them to solidify their feelings of certainty.

It would also be interesting to know how subject-jurors would react if they knew that feedback had occurred. Would they know to discount high confidence under such circumstances? This question has important practical implications. If jurors are able to discount high confidence under such circumstances, there would be no need to shield witnesses from information concerning a co-witness's identification.
CONCLUDING REMARKS

The malleability of eyewitness confidence independent of eyewitness accuracy merits serious consideration. The current findings suggest how easily witnesses can come to feel more certain about false identifications. Confident yet mistaken eyewitness identifications are the principal single cause of wrongful convictions of innocent persons (Huff, Ratner, & Sagarin, 1986). Consider, for example, the case of Lenell Geter. Geter was convicted of armed robbery and sentenced to life in prison on the basis of the testimony of five individuals who mistakenly identified him as the thief. This sentence was imposed despite Geter's strong alibi - nine of his co-workers swore that he was at work at the time of the robbery. Not until almost two years after the crime was Geter released from prison - not until another suspect was identified by four of the five eyewitnesses.

The current findings support Deffenbacher's (1980) recommendation that the judiciary should cease to rely on eyewitness certainty as a predictor of accuracy. Social influences can alter eyewitness
confidence independently of accuracy, thereby destroying any existing relationship between confidence and accuracy.
FOOTNOTES

1. In the eyewitness literature it is unusual to, as was the case in this experiment, wait until witnesses have provided their testimony to inform them that the crime was staged. Although subject-witnesses might not know that the event in question was a staged event while witnessing it, they usually learn it was staged before making an identification in most studies. For most eyewitness identification studies, it is not necessary to continue the ruse. In this study, however, it is absolutely essential that the primary dependent measure (confidence) be collected prior to informing witnesses that the crime was staged. Otherwise, participants would assume that the experimenter and the security officer already know who the "thief" was. This assumption would attach an entirely different meaning to the feedback than what was intended in this study. The goal here was to create an ecologically valid manipulation of eyewitness confidence. In actual eyewitness situations, a co-eyewitness can either agree or disagree with a witness's identification decision. The co-eyewitness cannot confirm the accuracy of the
witness's identification. Neither can the police officer who administers the lineup. Were witnesses in the current study debriefed prior to the identification, the experimenter could still provide witnesses with information concerning a co-eyewitness's identification decision. However, now the experimenter can confirm the accuracy of the witness's identification. Participants would thus likely be more interested in feedback from the experimenter than a co-eyewitness. They would probably dismiss or give little consideration to the information concerning a co-eyewitness's identification, knowing that the experimenter could tell them whether or not they had made an accurate identification.
REFERENCES


Wells and E. F. Loftus (Eds.), *Eyewitness testimony: Psychological perspectives*, (pp. 64-91). New York: Cambridge University Press.


APPENDIX A

Interview Script

You witnessed an alleged theft of some recording equipment?

Where were you at the time?

Can you describe the person who took the equipment from the room?

What was she wearing?

How good a view did you get of her?

Approximately how long was she in view?

Of that time, how long was her face in view?

Do you think the other witness had a better view, the same view, or a worse view than you did?

Do you wear glasses?
(If "yes": were you wearing them at the time?)

Do you have any problem with your vision of which you are aware?

Do you think you would be able to pick this woman out of a crowded classroom?
Are you generally good at recognizing and identifying people?

Would you be willing to testify if you were called to do so?

The instructor mentioned that you looked at some photographs. Did you make an identification?

How confident do you feel about that identification? Say, for example, on a scale of 1 to 10, with 1 being "not very confident" and 10 being "extremely confident", how confident do you feel about your identification?
APPENDIX B

The witness either:
(a) made an identification from the set of photographs he/she was shown or
(b) stated that the person who stole the equipment was not present in
   the set of photos.

1a. If the witness made an identification from the photos:
   Please use the scale below to indicate the degree to which
   you believe the witness correctly identified the thief.

   1--------2--------3--------4--------5--------6--------7
   do not believe witness made an
   convinced the witness made an
   witness ID

1b. If the witness did not make an identification from the photos:
   Please use the scale below to indicate the degree to which you
   believe the witness was accurate in stating that the thief was
   not present in the set of photos.

   1--------2--------3--------4--------5--------6--------7
   do not believe convinced witness
   witness was correct correctly stated
   in stating the thief that the thief
   was not present

2. To what extent do you feel the witness was accurate in his/her
   description of the physical characteristics of the thief?

   1--------2--------3--------4--------5--------6--------7
   not at all completely
   accurate accurate

3. How detailed was the witness' account of the theft, including the
   actions of the thief?

   1--------2--------3--------4--------5--------6--------7
   very few a great number
   details of details

4. How good do you feel was the witness' view of the thief?

   1--------2--------3--------4--------5--------6--------7
   very poor view very good view
Whereas the previous questions asked you very specific questions about the witness' testimony, the questions below ask you to consider your overall impression of the witness' testimony.

4. In general, how confident did the witness appear in testifying?

   1---------2---------3---------4---------5---------6---------7
not at all  very
confident     confident

5. In general, how accurate do you feel the witness was in testifying?

   1---------2---------3---------4---------5---------6---------7
not at all  very
accurate     accurate

6. In general, how believable was the witness' testimony?

   1---------2---------3---------4---------5---------6---------7
not at all  very
believable   believable

7. To what extent was the witness able to persuade you that he/she had a good memory for the witnessed event?

   1---------2---------3---------4---------5---------6---------7
not at all  very much
If the witness made an identification, please respond to the question below.

The following question concerns your willingness to convict the person identified as the thief by the witness you viewed on videotape. We are interested in how much, or what level, of evidence would be sufficient for you to decide that the person identified by the witness is, in fact, guilty and should be convicted of the theft.

Please indicate the evidence you would consider necessary to convict by marking an "X" beside one of the following statements.

____ The witness' testimony alone would be sufficient for me to convict.

I would need the witness' testimony plus I would need to know that:

____ the person IDed had a prior theft conviction.

____ the person IDed had a prior theft conviction and the person IDed worked in the building where the theft occurred

____ the person IDed had a prior theft conviction and the person IDed worked in the building where the theft occurred and another witness also identified this person

____ the person IDed had a prior theft conviction and the person IDed worked in the building where the theft occurred and another witness also identified this person and a possession of the person IDed was found at the crime scene

____ the person IDed had a prior theft conviction and the person IDed worked in the building where the theft occurred and another witness also identified this person and a possession of the person IDed was found at the crime scene and the stolen equipment was found in the bedroom of the person IDed

____ the person IDed had a prior theft conviction and the person IDed worked in the building where the theft occurred and another witness also identified this person and a possession of the person IDed was found at the crime scene and the stolen equipment was found in the bedroom of the person IDed and fingerprints matching those of the person IDed were found at the crime scene.