The Effect of the Cognitive Interview on Face Identification Accuracy: Release From Verbal Overshadowing

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Three experiments tested the effect of verbal description on face identification accuracy. Based on verbal overshadowing research, it was predicted that enhancing verbal description of a face would reduce subsequent face identification accuracy. Experiment 1 tested and confirmed this hypothesis using the cognitive interview to enhance verbal description; face identification accuracy was reduced significantly following the cognitive interview, compared with a standard police interview. Experiments 2 and 3 tested and confirmed the hypothesis that verbal overshadowing would be reduced when a delay is inserted between verbal description and face identification, hence resulting in "release from verbal overshadowing." These results suggest that in the verbal overshadowing task, the verbal description does not overwrite the visually based representation of the face in memory but rather makes it less accessible at the time of face identification. The cognitive interview reduces face identification accuracy only when the identification follows description immediately—a rare situation in real criminal cases.

The cognitive interview is a memory retrieval procedure developed to facilitate eyewitness recall of events (Geiselman et al., 1984). It incorporates nonleading, open-ended questions with a combination of retrieval mnemonics such as context reinstatement and recalling the events in a variety of orders. Numerous studies have investigated the effect of the cognitive interview on the accuracy of witnesses’ descriptions of people and events observed. In most of these studies it has been reported that the cognitive interview produces more and more accurate details recalled compared to a standard police interview, without increasing the amount of inaccurate information recalled (Fisher, Geiselman, & Amador, 1989; Fisher, Geiselman, Raymond, Jurkевич, & Warhaftig, 1987; Geiselman, Fisher, MacKinnon, & Holland, 1985), although Koehnken, Milne, Memon, and Bull (1994) reported more accurate and inaccurate details recalled in the cognitive interview. However, few studies have investigated the impact of the cognitive interview on identification accuracy. This study examined the effect of the cognitive interview on subsequent face identification accuracy.

The cognitive interview incorporates four retrieval techniques: (a) context reinstatement, (b) recalling the events in a variety of orders, (c) mentally changing perspectives, and (d) emphasizing to the witness the importance of reporting everything they can remember even if the information seems unimportant (Geiselman et al., 1984). In addition, when using a cognitive interview, the witness is asked nonleading, open-ended questions (e.g., “Tell me everything you can remember about the person who robbed the store”). Open-ended questions allow the witness to describe the event in his or her own words without constraints (Geiselman et al., 1985). The cognitive interview differs from a standard police interview in which retrieval mnemonics are not utilized and the majority of questions directed at eyewitnesses are specific and closed-ended (e.g., “Did this happen in spring or summer?”, Fisher, Geiselman, & Raymond, 1987).

Few studies have examined the impact of the cognitive interview on face identification accuracy. Kraafka and Penrod (1985) found that context reinstatement, a component of the cognitive interview, increased face recognition accuracy. Similarly, Malpass and Devine (1981) reported that a memory procedure emphasizing context reinstatement enhanced face identification accuracy 5 months after a vandalism. Although in both of these studies context reinstatement and imagery resulted in better face recognition

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accuracy, in neither study did participants elaborately describe the perpetrator in a manner elicited in a cognitive interview.

Only two studies to date have examined the effect of the description component of the cognitive interview on face recognition accuracy (Fisher, Quigley, Brock, Chin, & Cutler, 1990; Gwyer & Clifford, 1997). In both studies, there was no difference in identification accuracy as a function of whether participants received a cognitive interview or a standard interview prior to the face recognition test. However, failure to find a difference between the cognitive and standard interviews in these studies may be due to the fact that the interviews were administered either 48 or 96 hr after participants observed a staged theft. It is likely that the quantity and/or quality of the details generated after a 2 or more day delay would be significantly less than those generated shortly after viewing the event.

Numerous studies have demonstrated that verbally describing a stimulus that does not easily translate into a verbal representation impair subsequent identification accuracy (Fallshore & Schooler, 1995; Melcher & Schooler, 1996; Schooler & Engstler-Schooler, 1990). This effect has been termed “verbal overshadowing” (Schooler & Engstler-Schooler, 1990). Examples of stimuli that demonstrate this effect include faces, colors, and abstract figures. In the typical verbal overshadowing task, participants are shown a slide or video containing a target such as a face. After a brief delay, half of the participants verbally describe the target face and half are given an unrelated distractor task. Subsequently, all participants are given a recognition memory test in which they are asked to choose the target face from a lineup including the target and a number of verbally similar distractor faces. Using this procedure, differences of up to 30% between identification accuracy in the description condition compared to the no description control condition have been reported (Brandimonte, Schooler, & Gabbino, 1997; Fallshore & Schooler, 1995; Schooler & Engstler-Schooler, 1990).

The effect of verbal overshadowing on face identification accuracy has significant potential implications for real-world eyewitness identification accuracy. The typical verbal overshadowing task is similar to that of an eyewitness situation in which the eyewitness observes a perpetrator, is asked to verbally describe the perpetrator, and then later attempts to identify the perpetrator in a lineup. If verbally describing a face impairs subsequent face identification accuracy, then police officers investigating a crime should avoid eliciting unnecessary descriptions by eyewitnesses. But further, because the cognitive interview is known to specifically elicit enhanced verbal description by witnesses, this would suggest that the cognitive interview impairs face identification accuracy even more than standard police interviews do. Because the cognitive interview is now included as part of police interview procedures in numerous police departments throughout the United States and even by the Federal Bureau of Investigation (Bower, 1997), this is an especially compelling applied concern. This study examined the effect of the cognitive interview on subsequent face identification accuracy when participants are administered a cognitive interview compared to a standard police interview.

**Experiment 1**

In Experiment 1, the effect of the cognitive interview on face recognition accuracy was examined. Previous research indicates that verbally describing a face produces a verbal overshadowing effect that impairs the ability to later recognize the face. On the basis of the fact that the cognitive interview enhances the amount of verbal description by eyewitnesses, we hypothesized that face identification would be significantly less accurate following a cognitive interview than a standard police interview.

In Experiment 1, participants were shown a target face. Subsequently, participants were asked to describe the face using either a cognitive interview or a standard police interview. To address concerns about the studies by Fisher et al. (1990) and Gwyer and Clifford (1997), in which interviews were administered two or more days after observing the face, in this study a six-alternative, forced-choice recognition memory test followed 10 min after the interview.

**Method**

**Participants and Design**

Participants were 75 students from two undergraduate classes in Introductory Psychology at two community colleges in adjacent districts in southwestern San Bernardino County, California. Approximately equal numbers of men and women participated in each of the classes. For each of the three experiments in this study, demographic information was available for each college, but not for each class. At each college, the demographic distribution was the same: About 70% of the students were White, and the remaining students were Mexican American, African American, or Asian American. Participants in each class were tested as a group during their regular class time. This experiment was a two independent groups design with one class randomly assigned to the cognitive interview condition \((n = 38)\) and the other assigned to the standard interview condition \((n = 37)\). Estimated power for this sample size is approximately 80% for detecting medium and large effects \((\alpha = .05)\).

In all three experiments reported in this study, classes of participants rather than individual participants were randomly assigned to conditions. This quasi-experimental design may be a limitation of this study, as the effects may be accounted for by preexisting differences among the groups. However, because the classes were selected from introductory psychology courses at the same two community colleges, the range of preexisting differences
among groups was minimized. These were comparable colleges in adjacent districts.

Procedure

Participants were instructed that the study concerned inferences that people make about other people. All participants were then shown a slide of one target face for 4 min. The target was a 31-year-old White man with his head turned at a 45° angle. While viewing the target face, participants completed a 10-item adjective rating form that required them to judge the face on characteristics such as honesty and intelligence. Subsequently, participants were given a 10-min filler task that contained 20 questions regarding prior school experiences. Participants were then administered either the cognitive or standard interview procedure.

Cognitive interview. The cognitive interview was originally designed to be used to elicit recall of a sequence of events. Thus, a modified version of the cognitive interview was developed for this study. Because the target stimulus was a static slide of a face, two aspects of the cognitive interview were not deemed appropriate to include: (a) recalling the events in different orders and (b) recalling the events from different perspectives. The interview took approximately 12 min to complete. Before being questioned, participants were verbally instructed in three general memory retrieval techniques that comprised the cognitive interview. These techniques were the following: (a) Context reinstatement—participants were instructed to consider the thoughts and feelings they had while looking at the slide of the man’s face. (b) Report everything—participants were told to report everything they could remember in response to each question probed. Participants were also told that some of the questions would be similar, but that repeating previous details was encouraged because it may help them remember other information. (c) Imagery—participants were instructed to try to visualize the face and form an image of it in their minds. It was also suggested that to facilitate visualization, they may want to stare at the ceiling, focus on a point on the wall, or close their eyes.

After receiving the general memory retrieval instructions, the cognitive interview was administered. The interview consisted of 13 questions. Each question was printed in the recall booklet given to participants and was read aloud by the experimenter as well. Each question directed the participants to an aspect of the target person’s face and asked, for example, “Concentrate on the top half of his face. Write everything you can remember about his eyes. Write what you can recall about the color of his eyes, the shape of his eyes, and the size of his eyes.”

Standard interview. Participants in the standard interview condition read the following instructions while the experimenter read them aloud:

Please try to describe the person you were shown at the beginning of the experiment. Specifically, your task is to describe the person in such a way that your description would aid someone else in attempting to identify the person. Your description should therefore focus primarily on physical features. You might begin for example, by describing the person’s sex, race, age, hair color and style, facial features, and so on. Try to be as complete as possible, but do not guess at things about which you are uncertain.

Participants were given 12 min to provide a written description of the face.

After completing the interview, participants in both groups were given a 10-min filler task in which they read a list of events and assigned a probability judgment to each. Subsequently, a recognition memory test was administered. Participants were shown a sequence of six slides of faces presented one at a time. The test sequence included the target face and five verbally similar distractor faces. The test slide of the target face was a different picture of the target individual and presented this person’s face in full frontal view. After viewing all six test faces, participants were instructed to identify one face or, if none of the six faces was familiar, to choose the “not present” option. The target was always presented fourth in the slide sequence. The test items were projected for 5 s each, with this sequence presented twice.

Results

The primary measures were the accuracy of the descriptive details recalled and face identification accuracy. The significance level for all analyses was $p < .05$. The first analyses assessed whether the cognitive interview produced more accurate details recalled than the standard interview. Two judges independently coded the verbal descriptions provided by each participant. Each descriptive detail recalled was coded as either correct, incorrect, or subjective. Subjective details were details describing ambiguous features or the target face’s personality or potential occupation. The correlation between the two judges was .98 for correct details, .85 for incorrect details, and .90 for subjective details. Consistent with previous research, significantly more correct details were recalled with the cognitive interview ($M = 30.71$) than the standard interview ($M = 8.84$), $t(73) = 14.76$. In addition, the cognitive interview elicited significantly more incorrect details ($M = 4.60$) than the standard interview condition ($M = 0.97$), $t(73) = 6.93$, as well as more subjective details ($M = 6.96$ vs. 1.80, respectively), $t(73) = 10.0$. Using the effect size statistic $d$ (Cohen, 1988), we calculated a large effect size for correct details ($d = 2.50$), incorrect details ($d = 1.20$), and subjective details ($d = 2.31$).

The principle result in this experiment is that face identification accuracy was significantly less in the cognitive interview condition (47% correct; 18 out of 38 participants) than the standard interview condition (73% correct; 27 out of 37 participants). $\chi^2(1, N = 75) = 5.13$. A medium effect size was calculated for identification accuracy ($w = .33$, power = .82), following the procedure recommended by Ernfleder, Faul, and Buchner (1996). Cohen (1977, 1988) advocated the use of the $w$ statistic for calculating effect sizes for chi-square tests. Using the effect size index, $w$, lambda is the noncentrality parameter of the chi-square distribution. Using $w$, a small effect is .10, a medium effect is .30, and a large effect is .50.

Identification errors were classified as either misidentifi-
cations (identifying one of the five distractor faces), or misses (choosing the “not present” option). The distribution of identification errors did not differ between the cognitive and standard interview conditions; in the cognitive interview condition, 55% of the errors were misidentifications compared to 70% of the errors in the standard interview condition, \( \chi^2(1, N = 30) < 1.0 \). In this comparison, a small effect size was calculated for identification errors (\( w = .13 \), power = .11).

To examine the relationship between identification accuracy and description accuracy, we compared characteristics of the recalled descriptions for participants who accurately versus inaccurately identified the target face. On the basis of the verbal overshadowing effect, we predicted that participants who inaccurately identified the target face would produce more descriptive information about the face than participants who accurately identified the face. As predicted, participants who inaccurately identified the target face recalled significantly more correct details (\( M = 23.30 \)), than those who accurately identified the face (\( M = 17.67 \)), \( t(73) = 1.91 \), as well as more incorrect details (\( M = 3.95 \) vs. 2.06 respectively), \( t(73) = 2.91 \). There was no significant difference in the mean number of subjective details recalled as a function of whether participants accurately or inaccurately identified the target face (\( M = 4.16 \) vs. 4.8, respectively), \( t(73) < 1.0 \). A medium effect size was calculated for correct details (\( d = .45 \)) and incorrect details (\( d = .53 \)); a small effect size was calculated for subjective details (\( d = .19 \)).

**Discussion**

The cognitive interview resulted in more verbal output generated compared to the standard interview and consequently produced the verbal overshadowing effect with impaired face recognition accuracy in the cognitive interview compared to the standard interview condition. This result can be considered a standard retroactive interference effect, that is, in the cognitive interview condition, the greater amount of verbal description provided more retroactive interference with the previously generated memory for the face than occurred in the standard interview condition. In the current literature (see, e.g., Chandler, 1993), there are two explanations for retroactive interference: a storage interpretation and a retrieval interpretation. According to the storage interpretation, the second stimulus, in this case, the description of the face, overwrites or permanently reduces the memory strength of the original stimulus, in this case, the face. According to the retrieval interpretation, both stimuli coexist in memory, but the second stimulus makes the first stimulus less accessible at the time of the test.

A number of studies have supported the retrieval interpretation over the storage interpretation of retroactive interference. For example, Chandler (1993, Experiment 3) reported that the degree of retroactive interference was significantly less when the second stimulus was presented 25 min before—compared with immediately before—the recognition memory test. That is, the relative accessibility of the interfering stimulus was greater when it immediately preceded the test than when it preceded the test by 25 min. According to this interpretation, if the verbal description of the face makes the visual memory for the original face less accessible at the time of test, then delaying the face recognition test would be expected to result in a reduction or elimination of the verbal overshadowing effect. Experiment 2 tested this prediction in the context of the verbal overshadowing paradigm.

Why would it be expected that face identification would be less accurate if participants are relying on their memory of the verbal description of the face rather than their visual memory for the face? This prediction follows from the fact that faces are difficult to verbalize and descriptions of faces, even very detailed descriptions of faces, capture significantly less of the information available in the visual representation of a face in terms of the facial features and the interrelationships among these features. This is consistent with reports by Ellis (1984) of qualitative differences between the verbal descriptions of faces and the original visual representations of faces. Thus, if at the time of the face recognition test, participants are relying on their verbal description of the face, they are less likely to identify the correct face than if they are relying on their original visually based memory for the face. And, if the proximity of the interview to the recognition memory test makes the verbally based memory relatively more accessible than the visually based memory, then inserting a time delay between the interview and the identification test should allow the relative salience of the verbally based memory to subside, thus producing what has been previously referred to as a “release from overshadowing” (Brandimonte, Schooler, & Gabbino, 1997). Experiment 2 tested this hypothesis.

Experiment 2 also has important applied implications. If the reduction in face identification following the cognitive interview only occurs when the cognitive interview and the identification test are temporally proximate, then the cognitive interview would not be expected to inhibit face identification in real-world situations, because in real eyewitness identification situations, face identification often does not follow description immediately.

**Experiment 2**

In Experiment 2, participants were administered either the cognitive interview or the standard interview procedure identical to that used in Experiment 1. The only procedural difference was that after completing the interview, all participants were given a 1-hr break during which their instructor returned to the class lecture. After the 1-hr break, a
six-alternative, forced-choice face recognition memory test followed.

One interpretation of the results of Experiment 1 is that the poorer face recognition memory in the cognitive interview condition was related to the finding that participants in the cognitive interview condition generated more incorrect details when describing the face than did participants in the standard interview condition. Although this finding is not unique in the cognitive interview literature (e.g., Koelhnen, Milne, Memon, & Bull, 1994), it is not the general pattern reported by Geiselman and his colleagues. Experiment 2 allowed us to test this interpretation of the results of Experiment 1. If in Experiment 2, more incorrect details were recalled in the cognitive interview condition than in the standard interview condition, with no corresponding difference in face identification accuracy between these conditions, than the incorrect descriptive details generated in the cognitive interview condition cannot be the culprit in producing the verbal overshadowing effect in Experiment 1.

Method

Participants and Design

Participants were 69 students from undergraduate classes in Introductory Psychology at the same two community colleges from which participants were drawn in Experiment 1. Approximately equal numbers of men and women participated in each of two classes. Participants in each class were tested as a group during their regular class time. This experiment was a two independent groups design, with one class randomly assigned to the cognitive interview with delay condition (n = 34) and the other assigned to the standard interview with delay condition (n = 35). Estimated power for this sample size is approximately 80% for detecting medium and large effects with alpha equal to .05.

Procedure

As in Experiment 1, participants were instructed that the study concerned inferences that people make about other people. All participants were shown the slide of the same target face used in Experiment 1, presented for 4 min. While viewing the target face, participants completed a 10-item adjective rating form. Subsequently, participants were given a 10-min filler task followed by either the cognitive interview or the standard interview. Both interviews were identical to those administered in Experiment 1. After the interviews, participants in both groups were given a second 10-min filler task just as in Experiment 1, and then they returned to their class lecture for 1 hr. At the end of the hour, the same recognition memory test used in Experiment 1 was administered.

Results

The first analyses assessed whether the cognitive interview produced more accurate details recalled than the standard interview. Two judges independently coded the verbal descriptions provided by each participant. Each descriptive detail recalled was coded as either correct, incorrect, or subjective. The correlation between the two judges was .96 for correct details, .60 for incorrect details, and .86 for subjective details. Consistent with previous research, significantly more correct details were elicited with the cognitive interview (M = 33.07) than the standard interview condition (M = 8.76), t(67) = 17.68. As found in Experiment 1, the cognitive interview also elicited significantly more incorrect details (M = 3.56) than the standard interview condition (M = 0.89), t(67) = 7.30, as well as more subjective details (M = 7.54 vs. 2.46, respectively), t(67) = 9.02. A large effect size was calculated for correct details (d = 3.25), incorrect details (d = 1.36), and subjective details (d = 1.96).

The major result involved the face identification accuracy data. As predicted, inserting a 1-hr delay between the interview and the face recognition test eliminated the difference in face identification accuracy between the cognitive and the standard interview conditions. In the standard interview condition, the target face was accurately identified by 69% of the participants (24 out of 35); in the cognitive interview condition the target face was accurately identified by 85% of the participants (29 out of 34), $\chi^2(1, N = 69) = 2.70$. In this comparison, a large effect size was calculated for identification accuracy ($w = .56$, power = .99). In fact, identification accuracy in the cognitive interview condition increased significantly as a function of delaying the face recognition test by 1 hr, whereas in Experiment 1, the target face was accurately identified by 47% of the participants in the cognitive interview condition, and in Experiment 2, 85% of the participants accurately identified the target in the cognitive interview with delay condition, $\chi^2(1, N = 72) = 11.40, p < .05$. In this comparison, a medium effect size ($w = .40$, power = .92) was calculated for identification accuracy. Thus, although the cognitive interview elicited significantly more incorrect details than the standard interview, as was the case in Experiment 1, there was no significant difference in identification accuracy between the cognitive and standard interview with delay conditions in Experiment 2. These results indicate that the poor face recognition memory evidenced in the cognitive interview condition in Experiment 1 was not caused by the higher rate of incorrect details recalled in the cognitive interview condition.

Identification errors were categorized as either misidentifications (identifying one of the five distractors as the target) or misses (choosing the “not present” option). The distribution of identification errors did not vary as a function of whether participants were in the cognitive or standard interview condition in Experiment 2. In the cognitive interview condition, 60% of the errors were misidentifications compared to 64% of the errors in the standard interview condition, $\chi^2(1, N = 16) < 1.0$. In this comparison, a
negligible effect size ($w = .03$, power = .05) was calculated for identification errors.

To examine the relationship between identification accuracy and description accuracy, we compared characteristics of the recalled descriptions for participants who accurately versus inaccurately identified the target face. Given that the time delay in Experiment 2 eliminated the detrimental effect of the cognitive interview on face identification accuracy, for each comparison, no difference was predicted between the accuracy of descriptions for participants who correctly versus incorrectly identified the target face. As predicted, there was no significant difference in the number of correct details recalled by participants who accurately ($M = 21.93$) versus inaccurately ($M = 16.81$) identified the target face, $t(67) = 1.34$, nor in the number of incorrect details recalled by accurate ($M = 2.21$) versus inaccurate ($M = 2.19$) identifiers, $t(67) < 1.0$. The effect size was small for correct details ($d = .36$) and negligible for incorrect details ($d = .009$).

**Discussion**

As predicted, when a 1-hr time delay was inserted between the interview and the face recognition test, there was no significant difference in face identification accuracy between the cognitive interview and standard interview conditions. One interpretation of these results is that 1 hr after the verbal descriptions were generated, participants were less likely to rely on the verbally derived memory for the face than the original visually derived memory. Because the visually derived memory contains more information about the features of the face and their interrelationships, delaying the recognition test by 1 hr after the cognitive interview reduced the degree of retroactive interference and actually improved identification accuracy relative to the cognitive interview condition in Experiment 1.

These results support the interpretation that the verbal overshadowing effect occurs when the verbally derived memory representation is relatively more accessible than the original visually derived memory representation. In Experiment 1, the identification task followed the description task by only 10 min. Accordingly, at the time of the identification task, due simply to a recency effect, the verbally derived memory representation would have been relatively more accessible than the visually derived memory representation. As a result, verbal overshadowing was evidenced; identification accuracy was significantly less in the cognitive interview condition that elicited more verbal description than in the standard interview condition. In Experiment 2, however, the identification test followed the description task by 1 hr. At the time of the identification test, the relative salience of the verbal memory representation over the visual memory representation would have dissipated. Accordingly, participants in both the cognitive interview and standard interview conditions would be more likely to compare the test faces to their originally generated visual memory representation, and more accurate identification would result with no difference in identification accuracy between the two interview conditions.

In Experiment 2, the 1-hr delay inserted between the description task and the recognition test resulted in a release from verbal overshadowing. These results conflict with the findings of Schooler and Engstler-Schooer (1990), in which the verbal overshadowing effect was maintained after a 48-hr delay between describing the face and the recognition test. Although an explanation for the disparity in the findings is not immediately apparent, the purpose of Experiment 3 was to replicate the release from verbal overshadowing effect demonstrated in Experiment 2 using the Schooler and Engstler-Schooer (1990) methodology.

In Experiments 1 and 2, the cognitive interview condition was compared with a standard interview condition, not a no description control condition. Given that participants in the standard interview described the face for 12 min—they were not participating in a no description filler task—it is especially impressive that significant differences resulted between these two description conditions. Experiment 3 tested the proposed interpretation of the verbal overshadowing effect using the no description control condition used by Schooler and Engstler-Schooer (1990) in the original demonstration of the verbal overshadowing effect.

**Experiment 3**

In Experiment 3, participants viewed a face and then participated in a verbal description condition or a no description control condition. The face identification test followed immediately. A third condition was included in which a 24-min delay was inserted between the description and identification tasks. It was predicted that, compared with the no description control condition, identification accuracy would be significantly less in the description condition with an immediate test but not in the description condition with a delayed test.

**Method**

**Participants and Design**

Participants were 87 students from three undergraduate introductory psychology classes at the same two community colleges from which participants were selected in Experiments 1 and 2. Approximately equal numbers of men and women participated in each class. Participants in each class were tested as a group during their regular class time. This experiment was a three-independent-groups design, with classes randomly assigned to the verbal description condition ($n = 25$), the verbal description with delay condition ($n = 33$), or the no description control condition ($n = 29$). Estimated power for this sample size is approximately 80% for detecting medium and large effects (at $\alpha = .05$).
Materials and Procedure

Participants viewed the same target slide and test slides used in Experiments 1 and 2. The target slide was presented for 30 s followed by a 5-min filler task. Subsequently, participants in the verbal description and verbal description with delay conditions described the face for 5 min. Participants read the instructions silently while the experimenter read them aloud. The instructions were as follows:

In the space below, please describe in as much detail as possible, the face you saw in the slide. Fill in each line with a detail about what the face looked like. Please focus on the face and write down everything that you remember about what the face looked like. Report everything and do not edit out any details about the face even if you think they are not important.

Participants in the no description control condition were administered an unrelated 5-min filler task. Participants in the no description control and verbal description with immediate test conditions were presented the face identification task after the 5-min interval. Participants in the verbal description with delay condition were given a 24-min delay between the description and the identification tasks. During this 24-min delay, the instructor returned to the class lecture.

The recognition memory test was the same for all participants. The same target face and distractor test faces were used in this experiment as in Experiments 1 and 2, however, in this experiment, rather than presenting the six test faces serially, a single slide simulating a photographic lineup of all six faces was projected in front of the participants. The target was positioned fourth in the lineup. The test slide was presented for 1 min. Participants were told to choose the face of the same person they saw at the beginning of the experiment or, if none of the six faces was familiar, to choose the “not present” option.

Results

Two judges independently coded the verbal descriptions provided by each of the participants in the two verbal description conditions. Each descriptive detail recalled was coded as either correct, incorrect, or subjective. The correlation between the two judges was .94 for correct details, .70 for incorrect details, and .91 for subjective details. Participants in the description with no delay condition produced significantly more incorrect details ($M = 1.72$) than participants in the description with delay condition ($M = 1.02$), $t(56) = 2.02$. The mean number of correct details recalled in the description with no delay condition ($M = 9.38$) and the description with delay condition ($M = 7.41$) did not significantly differ ($t(56) = 1.64$, nor did the mean number of subjective details recalled differ between these two conditions ($M = 4.12$ vs. 4.45, respectively), $t(56) < 1.0$. A moderate effect size was calculated for correct details ($d = .53$), a small effect size was calculated for incorrect details ($d = .43$), and a negligible effect size was calculated for subjective details ($d = .09$).

The major result involved the face identification accuracy data. As predicted, face identification accuracy was significantly less in the verbal description with no delay condition (48% correct; 12 out of 25 participants) than in the no description control condition (79% correct; 23 out of 29 participants), $\chi^2(1, N = 87) = 7.01$. This result replicates the verbal overshadowing effect using the original verbal overshadowing task of Schoolder and Engstler-Schoeler (1990). More important, however, face identification accuracy did not differ between the verbal description with delay condition (79% correct; 26 out of 33 participants) and the no description control condition (79% correct; 23 out of 29 participants). These results demonstrate a release from verbal overshadowing and a significant improvement in face identification accuracy with a 24-min delay between the description task and the identification task. The effect size for identification accuracy in this experiment was large ($w = .52$, power = .99).

Identification errors were classified as either misidentifications (identifying one of the five distractors as the target) or misses (choosing the “not present” option). The distribution of identification errors did not significantly vary across the three conditions. In the verbal description condition, 77% of the errors were misidentifications compared to 86% of the errors in the verbal description with delay condition and 50% in the no description control condition, $\chi^2(2, N = 26) = 2.27$.

To examine the relationship between identification accuracy and description accuracy, we compared the mean number of correct and incorrect details recalled for participants who accurately versus inaccurately identified the target face in the description with delay and the description with no delay conditions. A strong prediction of the verbal overshadowing effect is that participants in the verbal description with no delay condition who inaccurately identified the target face would produce more descriptive information about the face than participants who accurately identified the face. As predicted, in the verbal description with no delay condition, participants who inaccurately identified the target produced more correct details ($M = 11.08$) than participants who accurately identified the target face ($M = 7.54$), $t(23) = 1.96$. There was no significant difference in the number of incorrect details recalled as a function of whether participants accurately or inaccurately identified the target ($M = 1.50$ vs. 1.92, respectively), $t(23) < 1.0$. A large effect size was calculated for correct details ($d = .78$); a small to moderate effect size was calculated for incorrect details. In the verbal description with delay condition, the time delay eliminated the detrimental effect of describing the face on face identification accuracy, therefore, for each comparison, no difference was predicted between the accuracy of descriptions for participants who correctly versus incorrectly identified the target face. As predicted, there was no significant difference in the number of correct details recalled as a function of whether participants accurately
(M = 7.38) or inaccurately (M = 7.50) identified the target face (t(31) < 1.0, nor in the number of incorrect details recalled by accurate (M = 1.00) versus inaccurate (M = 1.07) identifiers, t(31) < 1.0. Negligible effect sizes were calculated for both the correct and incorrect details (ds = .03 and .05, respectively).

**Discussion**

The results of Experiment 2 suggest that the verbal overshadowing effect occurred when the verbally derived memory representation was relatively more accessible than the original visually derived memory representation. In Experiment 2, the verbal overshadowing effect was eliminated when a delay was inserted between the description and the identification tasks. Experiment 3 presented a stronger test of this interpretation of the verbal overshadowing effect by using the original verbal overshadowing task of Schooler and Engstler-Schooker (1990), and by testing whether a shorter test delay produces this same effect. Inserting only a 24-min delay between the description task and the identification task resulted in a release from verbal overshadowing, and identification accuracy was actually significantly better in the description with delay condition than in the description with no delay condition.

**General Discussion**

Together, the results of these three experiments suggest (a) that describing a face impairs the subsequent ability to accurately identify the face, (b) that the cognitive interview impairs the subsequent ability to accurately identify a face more than a standard police interview does, but that (c) inserting a time delay as short as 24 min between the description task and the identification task eliminates the impaired face identification accuracy caused by the description task.

The finding that inserting a time delay between the description task and the identification task restores face identification accuracy suggests that verbally describing a face does not permanently degrade memory for the original target face viewed. This is consistent with the results of Schooler and Engstler-Schooker (1990, Experiment 6) in which face identification memory was restored to the level obtained in the no description condition by introducing a speeded face identification task. Similarly, Brandimonte et al. (1997) recently reported that interference resulting from verbally describing abstract figures was reduced by reintroducing visual cues that were present at encoding. In addition, Chandler (1993, Experiment 3) reported that the degree of retroactive interference was significantly less when the second stimulus was presented 25 min prior to as compared to immediately prior to the recognition memory test for the first stimulus. That is, the relative accessibility of the interfering stimulus was greater when it immediately preceded the test than when it preceded the test by 25-min. Along with the findings of the current study, these other studies support the conclusion that verbal overshadowing does not cause a permanent degradation of memory for the original target face, but rather, the relative accessibility of the verbal description renders the memory of the original face less accessible at the time of test.

This study tested the hypothesis that the extent to which verbally describing a face causes verbal overshadowing will be determined by the relative accessibility of the visual and verbal representations at the time of identification. In Experiments 2 and 3, it was reported that inserting a time delay between the description task and the identification task decreased the relative accessibility of the verbal representation at the time of identification and consequently increased face identification accuracy resulting in what has been referred to as a release from verbal overshadowing (Brandimonte et al., 1997).

In addition to the theoretical contributions of this work, this program of research has important real-world implications as well. These results suggest that although the cognitive interview is effective in eliciting enhanced verbal description of eyewitnesses, it reduces the ability to subsequently identify the target face. However, because the locus of this effect is the relative accessibility of the corresponding visual and verbal memory representations, inserting a time delay as short as 24 min between the description task and the identification task eliminates the impairment of face identification accuracy caused by the description task.

In the real world, identification of a suspect either occurs immediately after a crime in a field show-up, or identification follows the crime by weeks or months in the case of photographic or live lineups. In the first instance, in which a suspect is apprehended and identified immediately following a crime, it is not likely that the witnesses would have had an opportunity to provide an elaborate description of the suspect prior to the identification, so verbal overshadowing is not likely to occur. In the second instance, in which a suspect is identified in a photographic or live lineup, the opportunity to provide an elaborate description is more likely to have occurred, but given the time delay between the description and the subsequent identification, release from verbal overshadowing would be predicted. Thus, it is unlikely in the real world that elaborately describing a suspect using, for example, the cognitive interview, will impair subsequent face identification accuracy.

**References**


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