

# Facial Composites: Does a post-interview delay provide a release from verbal overshadowing under forensically-relevant conditions?

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## Composite Construction using Feature-based systems

Feature-based composite systems (e.g., PRO-fit, E-FIT) require a witness to select specific facial features (e.g., eyes, nose, mouth) from among examples in a database to create a visual likeness of the criminal.

Witnesses recall details about the criminal's facial features during a Cognitive Interview (CI). System operators use this description to select relevant examples of facial features from the database (e.g., narrow noses). The witness must then recognise when a good facial likeness of the criminal has been reached.

### Verbal recall can interfere with face recognition ability

Describing a face can interfere with later recognition of that face, the Verbal Overshadowing Effect (e.g. Brown & Lloyd-Jones, 2003). Providing a verbal description prior to constructing a composite (compared to no description) is found to impair the quality of the visual likeness produced (Frowd & Fields, 2011).

## Alleviating Verbal Interference

### Inserting a delay between description and composite construction

Frowd and Fields (2011) found that inserting a 30 minutes delay between the verbal description given during a CI and composite construction led to better quality composites relative to when composites had been constructed in the standard way (i.e., immediately after a CI).

This suggests that a post-interview delay provides a release from verbal overshadowing.

## The Present Study

*Is the post-interview delay a useful method under more forensically-relevant conditions?*

The present study aims to further examine the utility of the CI+ 30 minutes method. Within a single experiment we manipulated **Post-Interview Delay** (30 minute delay vs. no delay) and two forensically relevant variables: length of **Post-Encoding Delay** (2 days vs. 3-4 hours) and **Target Encoding Conditions** (Incidental vs. Intentional). Participants were either aware or unaware that they would need to construct a composite of the target in a second experimental session.

## Method: Composite Construction Phase (2x2x2 between-subjects design, N96)

### Target Encoding with

#### Incidental vs. Intentional Instructions

Participants watched a video clip from the UK soap 'Eastenders', depicting interactions between a target character and another character.

#### Post-Encoding Delay

#### Cognitive Interview

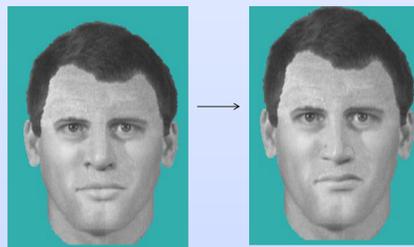
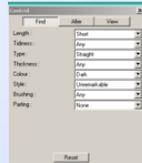
- Rapport building  
- Context reinstatement: *Think back to when you saw the target. Try to form a reasonable image of the face.*  
- Free Recall  
- Cued recall: *Can you remember anything else about the face shape / hair / eyebrows / eyes / nose / mouth / ears / overall appearance?*

#### Post-Interview Delay

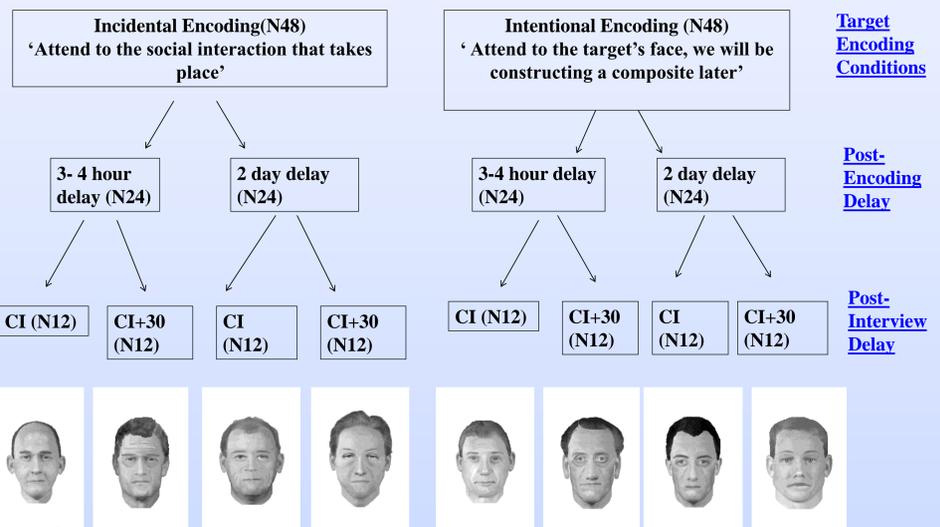
#### Composite Construction using PRO-fit

### PRO-fit Composite System- Feature-based Construction Tools

CI descriptions are inputted to generate a set of relevant features.



Feature options can be viewed- a new nose and mouth are selected.



Example composites constructed in each of the 8 conditions. They all relate to the same target.

## Method: Assessing Composite Quality

A new set of participants (N36) rated the likeness of the composites to photographs of their target individuals (1= poor likeness, 10 = good likeness). Participants rated 48 composites/target pairs from either the Incidental or Intentional Encoding Condition.

### Mean likeness ratings and F statistics for Main Effects

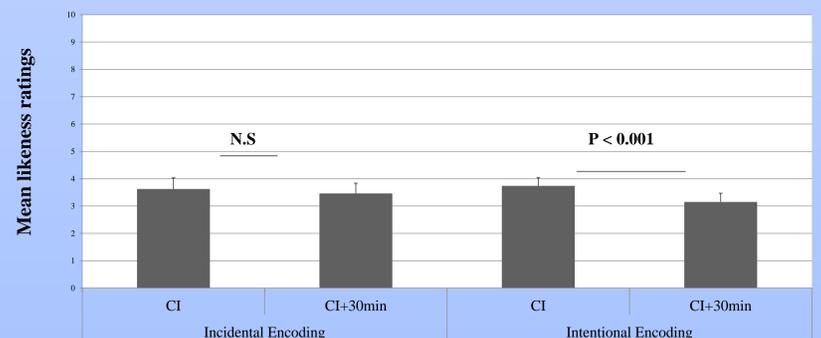
| Main Effects         | Levels       | Mean Likeness ratings | ANOVA   |
|----------------------|--------------|-----------------------|---|
| Encoding Condition   | Incidental   | 3.543                 | F(1,34) = 0.040, n.s                          |
|                      | Intentional  | 3.443                 |   |
| Post-Encoding Delay  | 3-4 hours    | 3.514                 | F(1,34) = 0.147, n.s                          |
|                      | 2 days       | 3.472                 |   |
| Post-Interview Delay | CI           | 3.681                 | F(1,34) = 18.396, p < 0.001, $\eta^2 = 0.351$ |
|                      | CI + 30 mins | 3.306                 |   |

## Results

Likeness ratings were significantly lower for the CI+30 mins compared to the CI condition. This main effect was qualified by an interaction with Encoding Condition, **F(1,34) = 5.875, p < 0.05,  $\eta^2 = 0.147$ .**

Analyses by-items confirmed a main effect of Post-Interview Delay, **F(1,11) = 9.181, p < 0.05,  $\eta^2 = 0.433$ ,** but the interaction with Encoding Condition was not found to be robust.

Mean 'likeness' ratings by Post-Interview Delay and Encoding Condition



## Discussion

### CI vs. CI+30 Minutes

Composites constructed after a 30 minute Post-Interview Delay were of *worse* quality than those constructed with no delay. This was most apparent for composites constructed under Intentional Encoding Conditions.

This contrasts findings by Frowd and Fields (2011) where *better* quality composites were constructed following a 30 minute Post-Interview Delay compared to no delay.

### The Verbal Overshadowing Effect

A Post-Interview Delay did not improve composite quality as would be expected if verbal overshadowing was a factor affecting composite production following verbal recall.

### Practical Implications

On the basis of our results we cannot recommend the CI+ 30mins method to those who construct facial composites in applied settings.

### General Conclusions:

Methodological differences in the presentation of target faces may explain the differences in findings. Here participants viewed videos of the target individuals whereas Frowd and Fields (2011) used static photographs. Different strategies used to encode target faces may interact with the presence or absence of a Post-Interview Delay prior to composite construction.

## References

Brown, C., & Lloyd-Jones, T.J. (2003). Verbal overshadowing of multiple face and car recognition: Effects of within-versus across-category verbal descriptions. *Applied Cognitive Psychology*, 17, 183-201.  
Frowd, C., & Fields, S. (2011). Verbalization effects in facial composite production. *Psychology, Crime and Law*, 17(8), 731-744.

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