JOVE 53298\_R2\_040115\_Letter to Editor

Holistic facial composite creation and subsequent video line-up eyewitness identification paradigm

Dear Sephorah

Thank you for giving us the opportunity to address the helpful comments made by the reviewers of the paper. We thank the reviewers for these. We hope we have satisfactorily amended the document keeping it in line with journal guidelines and specific section page number limits, and have submitted two versions of the manuscript, one in which the track changes in Word can be viewed.

Reviewer 1

In answer to Reviewer 1 who was primarily concerned that the delay between viewing the crime scene video and video lineup for different groups of participants appeared to differ, we can assure them that this is not the case. Indeed, Section 7.1 on presentation of the line-up video now reads:

“Have controls and composite creating participant-witnesses participate in this final phase of the study with the same delay between viewing the initial crime scene video for both groups”.

Reviewer 2

Nevertheless Reviewer 2 also noted that the issue of delay between crime scene video and video line-up could be expressed more clearly, and as this is a critical aspect of the study, we have added to Line 152 a sentence reading:

“The mean delay between crime scene video viewing and line-up will be equal for both groups”.

As specifically requested by Reviewer 2, we have also added to line 228 the sentence

“The mean delay from Stage 1 to Stage 7 should be equal for all participant groups”.

Reviewer 2 also asked about the mention of the delay of at least 24 hours before creating a composite. We have removed this line as there is no ‘set’ delay in a police investigation. In rare cases the police may ask a real witness to create a composite on the day of the crime. In most cases the delay will be longer – but mainly within a week. However, sometimes, but again rarely, the delay may be more than a month. In the introduction and discussion we had already made it clear that delay can additionally be measured as an additional variable using this paradigm, by varying delay for all groups.

Reviewer 2 also asked as to why the composite likeness ratings by participant-witnesses were 1-10 whereas those by culprit-acquaintances were 0-100%. We have corrected this anomaly by making all scales 0-100% (in practice this is one factor that differed between the two published studies employing the described paradigm – it is unlikely to have made a substantial difference to the outcomes)

Reviewer 2 asked whether other video lineup systems and other police forces could create a video lineup as listed in Section 5. The answer is yes and we have changed this section in line with editorial guidelines by adding to Line 363 the following note (note to Reviewer 2: editorial guidelines do not allow for mention of other trade names such as VIPER):

“Note: This section of the protocol has been optimized for the video line-up system PROMAT, although other systems are available”.

We have also removed the reference to the “Metropolitan Police” in Section 5.1 to:

“Have a police officer create a video line-up of the culprit, at an identification suite in a police station”.

We have also added **“**in the UK” to Line 715 in the discussion to acknowledge that other line-up systems (e.g., VIPER) are used in the UK…

“The paradigm would also allow for comparisons with different types of line-up that may be standard in the UK or other legal jurisdictions”

We agree with Reviewer 2 that Section 6 was a bit ambiguous. As with the rest of the protocol this was primarily based on published research. We have removed the word “approximately” in Section 6.1

“Have a group of five pilot participants, unfamiliar with the culprit, and who do not participate in any other procedure, provide a written description of the culprit after viewing the crime scene video.”

However, Section 6.2 is based very closely on the instructions provided to the pilot participant in both previous published studies using this paradigm. We left it up to them to interpret those instructions so as not to influence them unduly, and therefore we have added a note in Line 405 reading…

“Note: the interpretation of the instructions above is left to the judgement of the pilot participant.”

Reviewer 2 asked that in relation to Section 7.8 it would be useful to add information on single vs. multiple sequential line-up viewings. We agree that discussion of this issue is an important topic but is outside the remit of the protocol of this particular journal. The paradigm and indicative results are based on two published journal articles. Nevertheless, in Line 715 of the discussion we have already mentioned that the protocol could easily be adapted for other types of line-up used in different legal jurisdictions.

On line 688 Reviewer 2 requested information as to how the composite and description may be matched in a police investigation. In reality they would not be ‘matched’ as such. However, if the description did not match the composite and neither matched the appearance of the suspect, an astute defence lawyer would probably question the evidence in court. Discussion of this topic in depth is probably outside the scope of the journal. Nevertheless, we have added at Line 689 the following sentence:

“For instance, concerns might be raised in court if the composite and police suspect possess blond hair, the description dark hair.”

Reviewer 2 also asked that lines from PACE Codes of Practice should be included in the protocol. This would probably not match with editorial guidelines and to do this on each occasion would substantially increase the word length over the limit. Indeed on an earlier version of the manuscript, the authors were advised by the editor that one or two references to PACE codes that had been included were inappropriate.

The spelling/typographic errors spotted by Reviewer 2 have been addressed.

Reviewer 3

Reviewer 3 suggested that a line could be included in the Long Abstract describing exactly who could be a culprit-acquaintance assessor. Unfortunately, this section is already at the maximum word length so we could not include a sentence here. However, on Line 191 of the introduction we have added “some of whom should be acquaintances of the culprit” to the sentence re assessors…

“Within the participant-witness composite-creating group, a correlational design measures the relationship between ratings of composite-culprit similarity provided by participant-witnesses and independent assessors, some of whom should be acquaintances of the culprit.”

Reviewer 3 also suggested that the evolutionary algorithms for holistic systems could be explained in more depth. A sentence has therefore been added to Line 114:

“The witness selects a face from the array, and the evolutionary algorithm breeds the selection to create the next generation of faces in the following array.”

Reviewer 3 also asked that a longer description of the Cognitive Interview be provided. In the research protocol described here apart from building rapport, primarily only the free recall element was used, as is already reported in the manuscript (in the published research with children the interview was fairly brief as the children were only allowed out if the classroom for a set period). In reality a police operator will vary the interview based on the crime type, victim etc. (for instance, police operators will avoid asking a rape victim to mentally place themselves back in the crime scene – that is the job of the trained interviewers who will have already conducted a more intensive initial cognitive interview)…

To clarify however “rapport building” and “of the person depicted” has been added to Line 248 of the protocol

“Have the operator interview the participant-witness using elements of the Cognitive Interview (e.g., rapport building), in which the operator primarily requests the participant-witness to provide a free-recall description of what they saw in the video. Have the operator ask the participant-witness to tell him/her everything they remember about the video and the person depicted, and inform them that when they have finished, they will be asked some additional questions”.

It would also be of interest in future research to examine the effect of varying the interview techniques to see if this has an influence and so we have added a sentence to the discussion at Line 683

“Although it would be of interest to vary components of the Cognitive Interview in future research to examine this as a separate variable”

Reviewer 3 asked that the term ‘suitable likeness’ could be explained in more depth. Effectively a culprit in an investigation would have the opportunity to view the lineup to ensure it is suitable – it is a check to ensure that the police do not place obviously dissimilar foils in a lineup…Line 385 has been changed to read….

“Have the culprit agree that the selected foils are suitable (e.g., they possess a reasonably similar appearance to the culprit), as a suspect would have this opportunity in a real police investigation. Note: Alternatively, their legal representative could have this opportunity.”

Reviewer 3 also asked what controls do within the delay. A sentence has been added at Line 419:

“Note: The controls can be provided with a distraction task (e.g., puzzles) during the period of time the participant-witnesses took to create a facial composite.”

Reviewer 3 asks that a list of differences is provided demonstrating how the protocol differs from previous (and hopefully future) published research. The most important differences between these studies are listed in the indicative results (e.g., delays between procedures, numbers and age groups of participants in each condition). We do not think that the reporting of any more differences would be particularly informative as most are fairly minor and were as reported above due to limited time frames in which the various procedures could be conducted. They would increase the overall word count extensively. This information is also available in the original journal articles.

Reviewer 3 also asks for a formula to Tredoux’s E. For this we have followed editor’s guidelines and included a citation for all such formulae so that readers can find further information if required (see also Pearson’s Correlation Line 522; Chi-squared test Line 561 etc.)

In Line 501 of the manuscript the reader is referred to…….

39. Tredoux, C. G. Statistical inference on measures of lineup fairness. *Law Hum. Behav.* **22**, 217–237, doi: 10.1023/A:1025746220886 (1998).

Reviewer 3 also makes some astute suggestions as to the reason why children’s ratings may not have been significant at Line 585 and we have ‘borrowed’ their suggestions

However, Reviewer 3 asks for a theoretical discussion of the non-significant findings between composite quality and participant-witness line-up accuracy. Mention of this was made in Line 615. However, providing a detailed theoretical explanation in depth in the discussion is outside the scope of the journal and we refer the reviewer to the original journal article.

Finally, Reviewer 3 asked for a description of the age range of the children in the previous research, this was 6-11 years and is listed at Line 581.

Reviewer 4

Reviewer 4’s makes some astute suggestions re combining the results of culprit-present and culprit-absent line-ups. The data reported in the indicative results comes from two journal articles and unfortunately in neither article was the data combined in this manner. However, on Line 729 we have added the following sentence and reference.

To further examine the influence of composite creation on line-up outcomes, combining the results of culprit-present and culprit-absent line-ups would also inform as to whether memory sensitivity or response bias to make a selection is influenced (see for example 52 which discusses the use of signal detection measures for this type of analysis).

52. Mickes, L., Moreland, M.B., Clark, S.E., Wixted, J.T. Missing the information needed to perform ROC analysis? Then compute d/, not the diagnosticity ratio. *J App Res Mem and Cog*. **3**(2), 58–62. doi:10.1016/j.jarmac.2014.04.007 (2014).

To the editor

After re-reading the manuscript, we have also made a couple of additional edits as we believe these will add clarity to the document.

Line 78/79 Changed – “An identified suspect – who may not be the actual culprit - may be placed in a line-up to see whether the original eyewitness can identify them or not” to “An identified suspect – who may not be the actual culprit - may be placed in a line-up to see whether the original eyewitness can identify them or not”

Line 111 Changed “in all holistic systems” to “with all holistic systems”

Line 116 Added “with their composite”

Finally, in previous communications we requested and this was accepted by the editorial team that the final figures to be included in the manuscript should be based on the composite created while the video is being produced. Therefore, all the figures depicting the culprit and the composite production process currently in the manuscript will be replaced as appropriate.

Thanks very much

Josh Davis