Reviewer’s report

Title: Studying medical communication with video vignettes: how variations in video-vignette introduction format and camera focus influence analogue patients' engagement. A randomized study.

Version: 0 Date: 26 Jul 2017

Reviewer: Stephen Henry

Reviewer's report:

This paper presents results of research comparing different approaches to creating video vignettes for use with analog patients. The authors compare a written vs audio visual introduction to the vignette as well as 3 different "camera styles": vignettes focused on physician only, camera alternating on patient and physician with neutral patient expression, and camera alternating on patient and physician with emotional patient expressions. The research design overall is strong, and the statistical analysis is appropriate. The use of both (analog) patient-reported outcomes and physiologic outcomes is a strength. The quality of written English is acceptable. This study is likely to be of interest only to researchers who use the analog patient method to study patient-physician communication, which is a well established method. Nevertheless, findings from this study may be helpful to researchers designing analog patient studies. I do think the paper has some problems that need to be addressed before the paper is suitable for publication; however, the author should be able to address these problems without major revisions. My detailed comments are provided below:

INTRODUCTION

1. There appears to be some formatting problem around the word 'confoundign' on line 14.

2. First paragraph, line 14-16. The sentence "manipulating physicians' communication during actual consultations is potentially harmful for patients and therefore often considered unethical" should be deleted. It is not a compelling rationale for analog patient studies. We have almost no evidence about how specific communication behaviors are associated with outcomes and patient experience ratings, so it is not reasonable to suggest that manipulating patients communication (especially in the benign sorts of ways needed to test most communication and psychological theories of interest to health communication researchers). For example, most communication training programs are based on expert opinion and lack rigorous evidence for effectiveness, so as a practical matter we don't know whether these trainings are actually "harming" patients. The real compelling justification for analog patients is, as the authors point out in paragraph 2, is practicality. It is much easier to recruit students
rather than patients, and much easier to run statistical tests when all potentially confounding variables are controlled via an artificial environment.

3. Page 4. The discussion of options for camera focus only includes 3 possibilities: physician only, patient and physician alternating, and patient and physician alternating with emotional patient images. Why are these the only options mentioned? Surely there are many more than just these 3 options to consider for camera focus when constructing video vignettes. For example, why not show a vignette with both patient and physician in the same frame, so that analog patients could see body language and the interaction between patient and physician in the vignette? Why not show the patient face and physician face side-by-side? better justification needs to be provided for why only these 3 camera options were tested. Perhaps the reasoning is obvious for people who make video vignettes, but the reasoning and justification need to be stated explicitly.

METHODS

3.5 Page 8. Justification for measuring blood pressure and electrodermal activity as dependent variables should be provided. Why are these physiologic measures needed if the authors are already collecting self-report measures? The rationale is not self evident. IS it possible that the processs of physiologic measurement could have distracted participants or affected their self-report measures?

4. Page 9. The measure of effect size used (partial eta squared) should be briefly explained and justified. many readers are likely to be unfamiliar with this measure compared to more commonly used measures of effect size.

5. Page 9. The reasons for the missing data seem to be largely technical and so could likely meet criteria for missing completely at random. in these cases data imputation is considered the preferred approach to missing data. Authors should state whether they imputed missing data or not and briefly justify this choice.

RESULTS

6. Page 11. The authors state that there were no main effects for introduction format or camera focus on self-reported engagement. They then go on to talk about the significant uni-variate results. This approach may confuse readers -- authors should clearly present this as a negative / null finding. This negative finding should also be mentioned in the abstract. Given the strong research design, a negative/null result is likely to be just as important as a significant one.
7. Page 12, line 6-8. Since authors conducted multivariable analysis for introduction format and cardiovascular parameters, the discussion of "post hoc univariate" analysis may confuse readers. The discussion of the multivariate results should include the direction of the effect without doing 'post hoc univariate' analysis.

DISCUSSION:

8. Page 14. The authors need to explain and discuss the discrepant results for electrodermal activity vs cardiovascular parameters. The authors currently focus on the statistically significant results, but also need to discuss the null results. Why was the audio visual introduction associated with changes in blood pressure but not electrodermal response? Why was the effect of camera focus associated with changes in electrodermal response but not blood pressure? Are these 2 physiologic measures analyzing different phenomena?

9. Page 14-15. Further discussion of the differences between the physiologic outcome variables and the self-report variables is needed. Given that the results for these 2 categories of measures sometimes differ, a specific recommendation to other researchers about whether to use physiologic vs self-report measures would be helpful.

10. Page 16. More detailed discussion of the relative magnitude and practical significance of these effects in comparison to other variables likely to influence analog patient studies must be added. For example, authors state that older analog patients report stronger emotional engagement. Is the effect of analog patient age larger than the effect of video vignette formatting? In other words, if video vignette formatting only accounts for, say 2% of the overall variance but analog patient age accounts for 10%, then researchers who focus on video vignette construction (but ignore patient age) may be wasting their time. Practical advice for what factors researchers should prioritize when planning analog studies should be added. For example, an audio visual introduction may be relatively time consuming to produce, and if the expected affect on study outcomes is small, researchers may be better off focusing on the race or age of the patients in the vignette.

ABSTRACT.

11. The abstract currently provides only the significant results. the major negative /null results should also be discussed in the results section. The abstract background section could be considerably shortened if more space is needed.
12. Table 1. The differences across the 3 camera focus options seems small and not practically significant. Adding results of statistical tests across groups using table footnote would help readers to digest the table message.

Based on just reviewing table 1, it appears that the experimental manipulation had no practically meaningful effect on the patient-self report variables. if this is the case, the authors should make this clear. Finding no practical difference (even if there is statistical significance) should not be considered an undesirable outcome given the strength of the overall study design.

13. Table 2 and 3. same comment as table 1, results of the statistical test should be included in the table (via footnotes or some other method) to make the results easier for readers to understand.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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