Reviewer's report

Title: The feasibility of using pattern recognition software to measure the influence of computer use on the consultation.

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Reviewer: Elske Ammenwerth

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General
The authors present an approach to quantitatively analyse certain elements of body language (e.g. leaning towards the patient) in a video-taped doctor-patient-consultation by applying pattern recognition software. The first author has a strong research track in analysing consultation in primary care.

Some general statements on the quality of this paper:
Significance: The significance of this paper seems rather clear: The shift from manual scoring approaches to pattern recognition approaches may save time and increase the reliability of communication analysis. Quality of scientific and technical content: The study questions is sufficient clear, the used methodology is adequate, and the most important results are sufficiently being discussed. There are some points which could be improved, they will be explained in the next paragraph.
Originality: The paper only presents a feasibility study at a rather early stage, however, as no comparable work is known to the reviewer, it is nevertheless of interest for others working in this area and of sufficient originality.
Coverage of literature: Good coverage of literature of impact of computers on consultation quality, but only few references on problems and approaches to the traditional video analysis.
Organisation of presentation: The paper is sufficient clear to read. The figures are very helpful. There are some points which could be improved, they will be explained in the next paragraph.

Discretionary Revisions (which the author can choose to ignore)
none

Minor Compulsory Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. Methods-section of the abstract: This section is too short to get the message. It should be made clearer that it is a feasibility study of using pattern recognition to analyse a consultation (and thus no results of the analysis are presented), and that only test users were included (no real consultation), and what of the consultations was analysed how.
2. Results-section of the abstract: It may be clearer to start with one statement which addresses the original objectives of the study, e.g. "the results show that pattern recognition software could be used to analysed certain aspects of consultation, such as ..."
3. Structure of paper: The fourth paragraph in the background section "the next step ..." describes the method of the study and should thus be put in the methods section.
4. Background section: The overall structure of this section is somewhat confusing. The objective of the study is mentioned three times: in the 2nd paragraphe, and twice on the 3rd page. It may be easier to read the paper when the rationale/objective of the study is put completely at the end of the background section.
5. Principal findings: this paragraphe is rather short. It says "the influence of the computer were measured" which seems not correct - only the feasibility of pattern recognition to count certain
behaviours (which one? should be mentioned here) was shown. The main feasibility results should be summarized here.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. Background section: A lot of background is presented on analysis consulting styles which is good to understand the background. However, there is not deeper analysis of the problems associated with traditional scoring approaches, and of the potential advantages and disadvantages of using pattern recognition instead. As this was the motivation of this work, this should be added.
2. Methods section: The hardware used is described rather comprehensively. However, the setting of the feasibility study stays somewhat unclear. It should e.g. be made clearer that the participants were from the study team, which environment was simulated (surgery?), how many consultations have been analysed over which time period, how many videos were analysed etc. = the overall setting of this feasibility study.
3. Discussion: the "implication of findings" seems too short. It should be discussed that only some movements could be captured by pattern recognition, others not. It should be discussed what this means compared to manual scoring systems: which parts can be analysed by pattern recognition (only some part of body language?), and which not (verbal communication?), for which one will we still need scoring? What does this mean for communication research? Should they combine both approaches? As the comparison to manual scoring systems was the motivation of this study, this point should be discussed more extensively.

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: A paper whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Declaration of competing interests:
None