

Extracting automatically social signals from psychotherapy sessions

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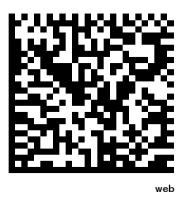
Introduction and motivation

Psychotherapy is an important part of treatment of mental disorders alone or complementary with pharmacotherapy. Some techniques are now widely evidence-based and very cost effective (Layard & Clark, 2014).

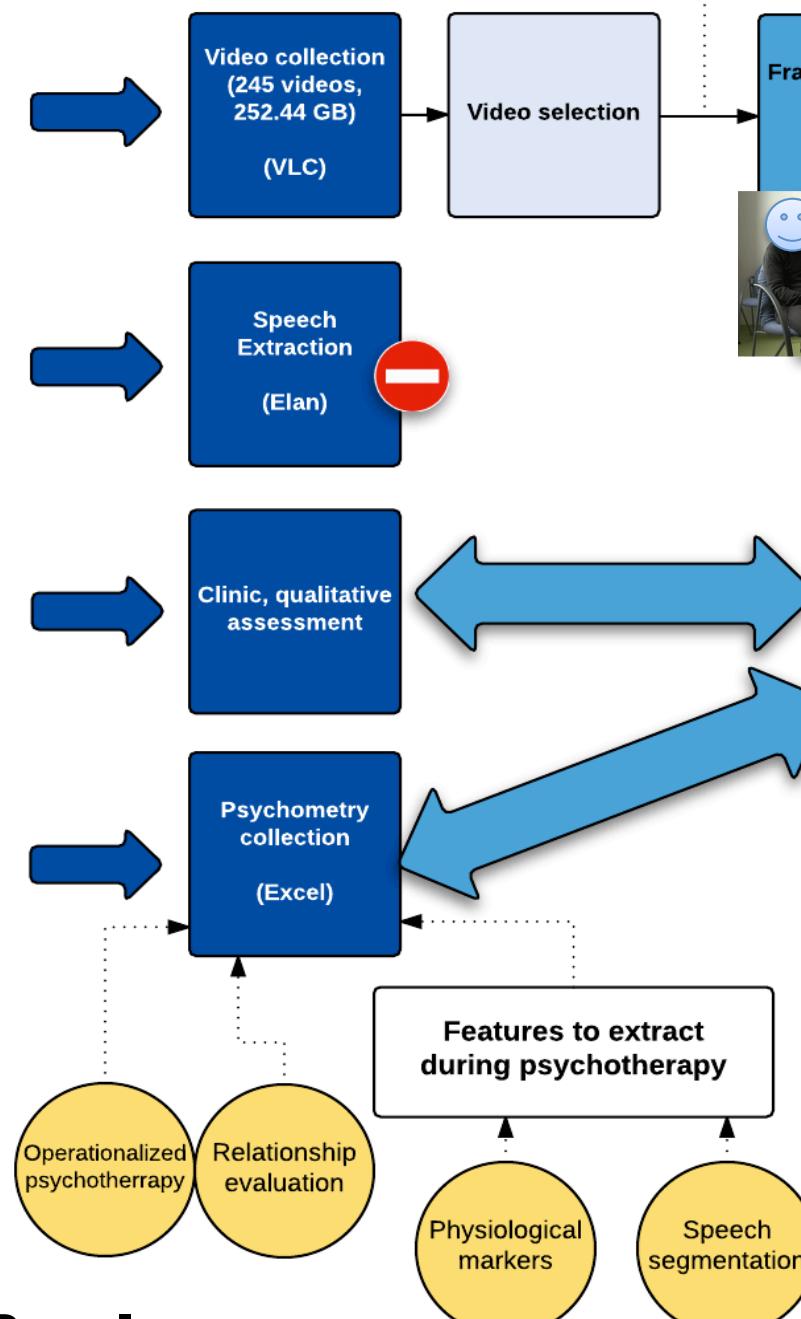
Studies hardly control what is actually happening during psychotherapy, especially the interaction between the patient and the therapist. Consequently, it is difficult to make precise links between theory and practice, control application of psychotherapy recommendations and understand which of its ingredients are the most important. An automatic feedback during the psychotherapy could help the therapists to reorganize a treatment.

Project website

<http://bit.ly/syncpsy>



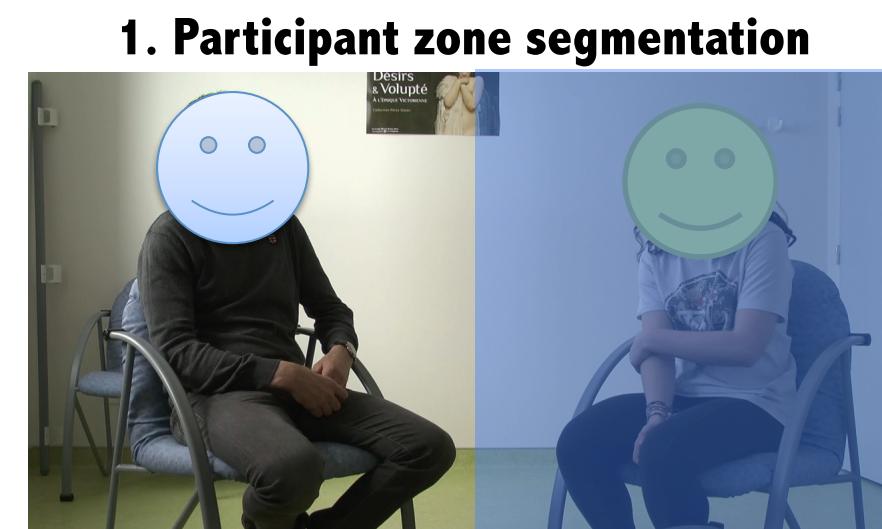
Procedure



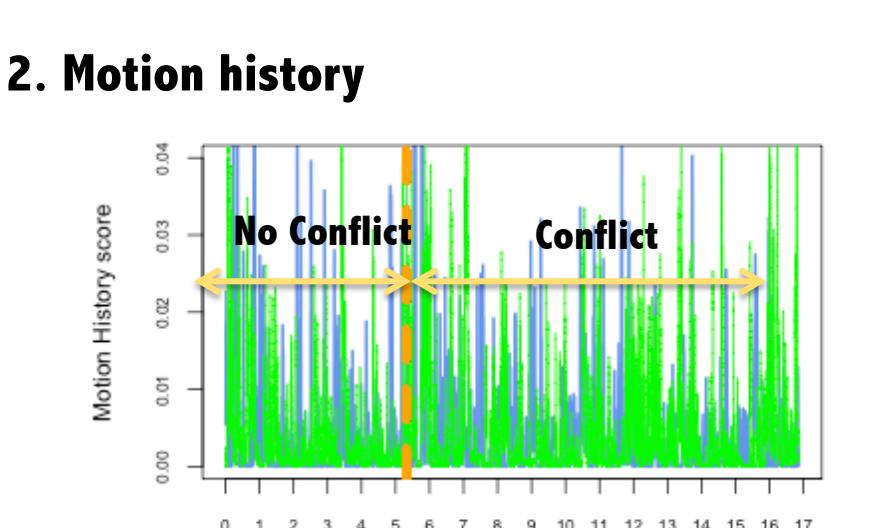
Model



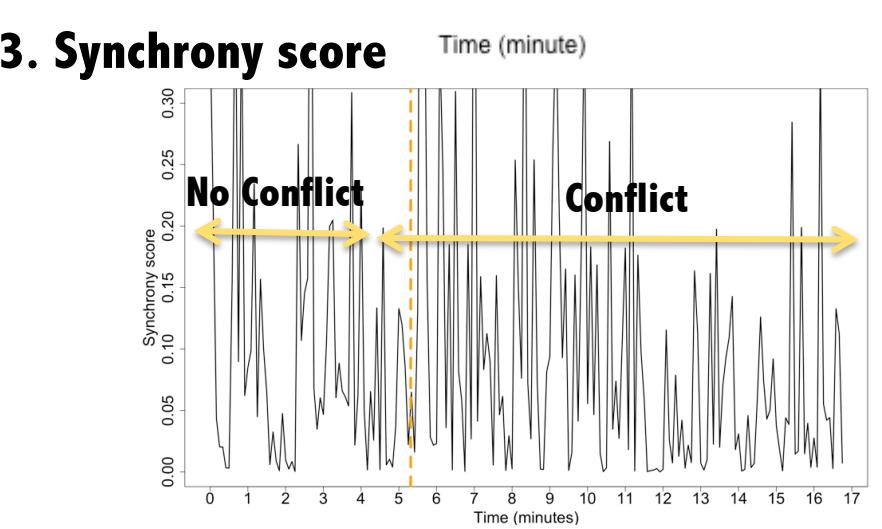
Example on a conflict video



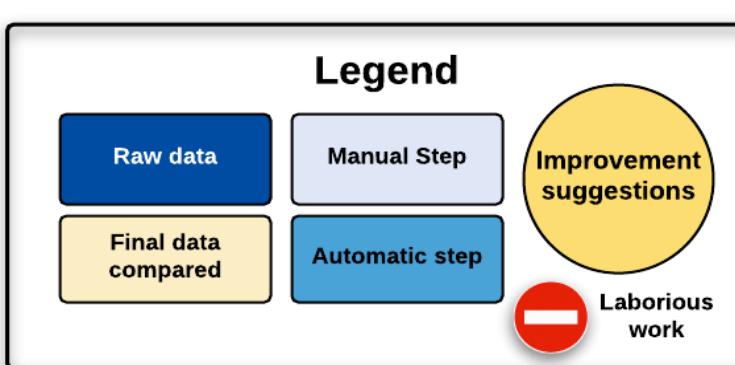
1. Participant zone segmentation



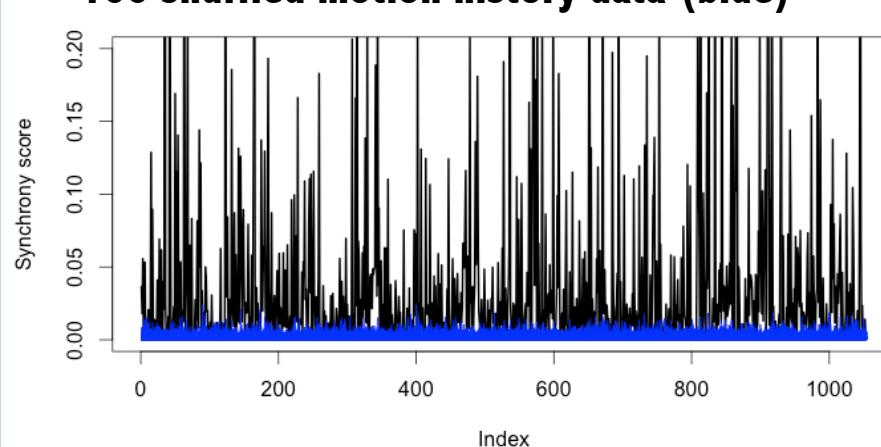
2. Motion history



3. Synchrony score



4. Synchrony scores from natural (black) and 100 shuffled motion history data (blue)



Results

- Synchrony scores of motion history (blue) are completely different from synchrony scores of randomised motion history (Fig 4.).
- Synchrony scores before and during conflict are correlated ($p<0.03$), are therefore a feature of the dyad
- Synchrony scores do not differ in presence of conflict or not
- Synchrony scores are not correlated with attachment styles of child nor alexithymia scores of child (TAS20)
- Motion history scores are not correlated scores of depression (BDI) or anxiety (STAY)

4. Synchrony scores from natural (black) and 100 shuffled motion history data (blue)

Conclusions

- Automatic extraction of social signal on videos is promising
- Videos need to be have a sufficient quality (comparable set up, light, framing of the subjects, without interlacing)
- Important to work on precise annotations (moment and intensity of conflict)
- A interdisciplinary team and open science framework is important

References

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