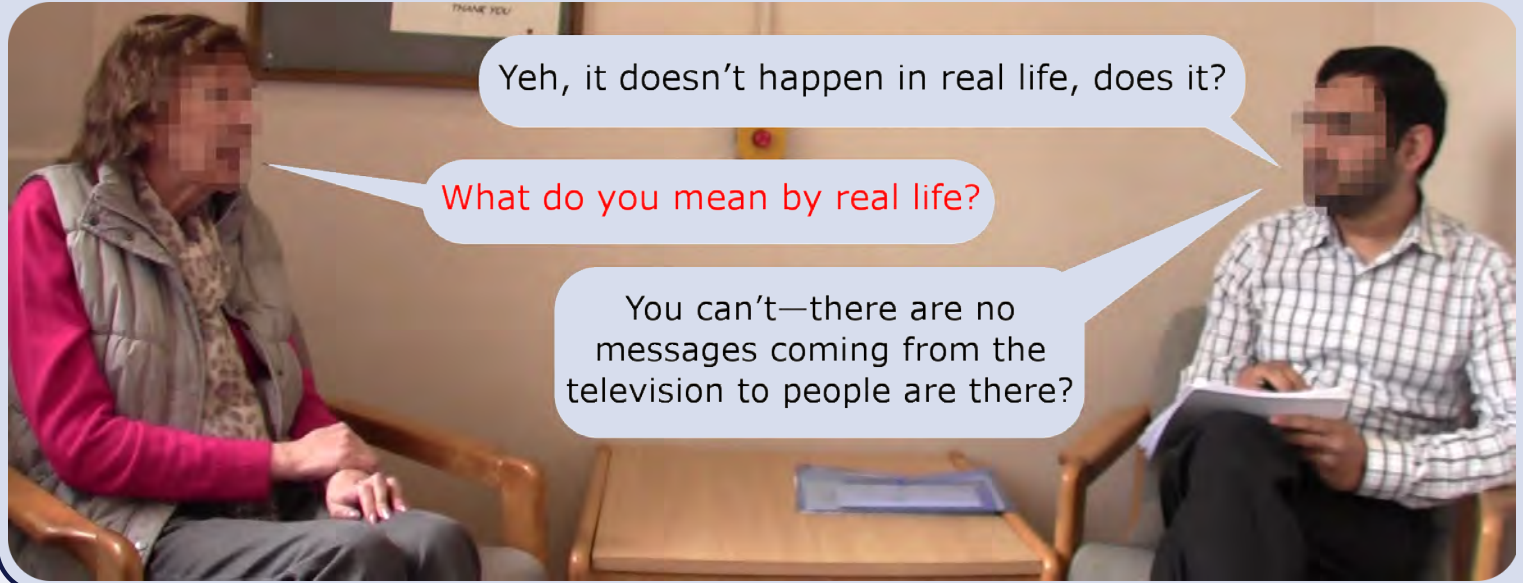


Predicting Adherence to Treatment for Schizophrenia from Dialogue Transcripts

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Patient-led clarification in doctor-patient communication



Background

About half of patients with schizophrenia are non-adherent in the year after discharge from hospital

Their risk of relapse is 3.7 times higher than adherent patients

Recent research suggests dialogue features, specifically types of *repair*, are associated with adherence (McCabe et al., in prep.)

More patient-led clarification leads to greater adherence 6 months later

Patient-led clarification includes

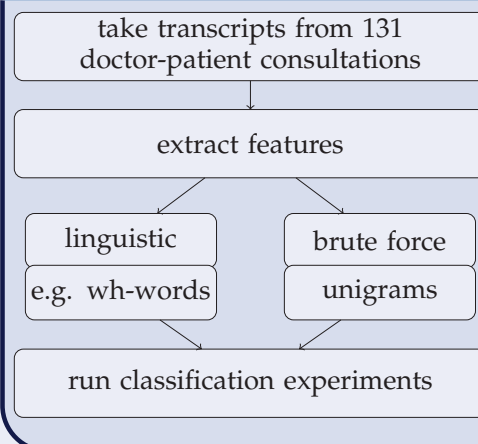
- Next Turn Repair Initiators (NTRI; see e.g. above)
- Position 2 Other Initiated Other Repair:

Dr: Rather than *the diazepam* which I don't think is going to do you any good
P: *the valium*

Can we automatically locate these repairs?

Can we automatically predict adherence?

Method



Conclusions

1. We have had some success detecting NTRIs and all position 2 repairs
2. The phenomenon is sparse – despite the association between repair and adherence, we can't predict adherence using high-level features
3. Lexical content enables us to predict adherence, and other outcomes, but is almost certainly overfitting
4. The words that predict each outcome are different, so *topics* (hand coded and automatically detected) may allow greater generalisation

Results

Repair detection, by line; raw (unbalanced) dataset, patient only:

Target	Features	F (%)	P (%)	R (%)
NTRI	OCRProportion	35.8	85.7	22.6
NTRI	High-level	41.4	42.8	40.6
NTRI	All	44.0	44.9	43.6
P2R	OCRProportion	19.6	56.4	11.8
P2R	High-level	31.6	36.2	28.4
P2R	All	35.4	43.8	30.3

High-level features allow us some prediction of repair

Including words does not improve performance much

Outcome detection by dialogue:

Target	Baseline	Words	High-level
PANSS <i>positive</i>	51.1	87.0*	56.5*
PANSS <i>negative</i>	49.6	87.8*	56.5*
PANSS <i>general</i>	48.4	91.1*	54.0
PEQ <i>emotions</i>	51.9	89.1*	53.5
PEQ <i>communication</i>	50.8	79.8*	52.4
PEQ <i>comm. barriers</i>	51.6	90.6*	51.6
PEQ <i>overall</i>	50.8	90.6*	53.9
Adherence	73.2	91.1*	63.4
Adherence (balanced)	53.5	93.0*	52.1

We can weakly predict symptoms using high-level dialogue factors

But not adherence or satisfaction

All outcomes can be predicted using words

Acknowledgements

