

Gesture, self-repair and reasoning in schizophrenia

Successful social encounters require mutual understanding between interacting partners, and patients with schizophrenia are known to experience difficulties in social interaction. It is well known that world knowledge plays an important part in our understanding of pragmatic phenomena that are crucial for our ability to interact successfully with other human beings, and several studies have shown that in general people compensate for verbal difficulties (indexed by self-repair) by employing additional multimodal resources such as hand gesture (Seyfeddinipur and Kita, 2014) and head nods (Healey et al., 2013).

Many different aspects of communicative difficulties in patients with schizophrenia have been observed. For example, patients with schizophrenia may have difficulty monitoring their own verbal behaviour (Johns et al., 2001), display fewer hand gestures when speaking and have mismatches between gesture and speech (Millman et al., 2014). Patients also display differences in the way they reason in a number of decision making and logical reasoning tasks (Dudley and Over, 2003). However, most of this work relies on testing individuals and fails to take interaction into account. Recent work (Lavelle et al., 2013) shows that in interactions involving patients with schizophrenia, while patients non-verbal communicative behaviour is different to that of healthy participants, their interlocutors also adapt their non-verbal behaviours, despite being unaware they were interacting with a patient.

We present some data from discussions of the balloon task that show that during social interaction, schizophrenia patients repair their own speech less, and come up with fewer arguments regarding who to throw out of the balloon. In addition, although increased hand gesture is correlated with increased self-repair in healthy controls, there is no such association in patients with schizophrenia, or their interlocutors. Control participants in dialogues with a patient also come up with fewer arguments than those in dialogues without a patient, suggesting that controls interacting with patients also moderate their reasoning behaviour, in line with the non-verbal findings from Lavelle et al. (2013).

This suggests that multimodal and reasoning impairments are not merely seen on an individual level but may be a feature of patients' social encounters.

References

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