

What's so funny?

An analysis of conversational laughter in schizophrenia

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Background: Schizophrenia patients have difficulty interacting with others and are one of the most socially excluded groups in society.¹ The nature of patients' social exclusion is multifactorial. However, one contributing factor may be patients' behaviour during their social encounters. In a recent experimental study the undisclosed presence of a patient in a triadic interaction was found to change the nonverbal behaviour of patients' interacting partners.² Furthermore, patients' increased gesture use when speaking was associated with their partners experiencing poorer rapport with them.² This suggests that patients' partners may experience difficulty on an interpersonal level when interacting with a patient, which may contribute to patients' social exclusion.

Laughter can be as a marker of discomfort or awkwardness in social interaction.³ In multiparty interaction, shared laughter may also indicate coalition between the laughing parties.^{4, 5} This study investigated laughter in patients' triadic interactions with unfamiliar others, specifically focusing on laughter between patients' interacting partners as makers of interactional discomfort and coalition formation.

Method: The study consisted of two conditions: (i) a patient condition, comprising twenty patient groups (one schizophrenia outpatient and two healthy participants) and (ii) a control condition, comprising twenty control groups (three healthy participants). All interacting partners had not met prior to the study. Patients' partners were unaware of the patients' diagnosis and all participants were naive to the purposes of the study. Thus, the interactions were as naturalistic as possible within the motion capture environment. Interactions were audio-visually recorded using two, 2-D video cameras and simultaneously motion captured in 3-D (figure 1). Participants discussed a fictional moral dilemma called 'the balloon task', described elsewhere² and reached a joint decision on the outcome. Laughter was hand coded using the ELAN annotation tool. Patients' symptom severity was also assessed using the Positive and Negative Syndromes Scale.⁶

Preliminary results: Patients' partners displayed more shared laughter when patients had more positive symptoms such as hallucinations or delusional beliefs ($r(13)=.50$, $p=.04$). This was seen despite patients in the current study having only mild to moderate symptom levels and displaying no overt symptoms during the interaction.

A single case analysis of a patient's interaction was conducted using conversation analysis techniques. In this interaction, the shared laughter occurred after a lapse in the conversation. Specifically, at points in the interaction where the patient was expected to speak next but did not take the opportunity to do so. Shared laughter sometimes coincided with healthy participants' displaying mutual gaze and a sequence of highly synchronized nonverbal behaviours (e.g. one participant moving forwards as the other participant synchronously moves backwards) (figure 1).



Figure 1. Healthy participants shared laughter

Discussion: These findings suggest that patients' partners displayed shared laughter, which the patient was not party to. This occurs more frequently when patients are more symptomatic. Preliminary analysis suggests that shared laughter occurs after lapses in the conversation where the patient is expected to speak but does not. Thus, the laughter of patients' partners may signal their shared interactional discomfort,^{3,5} which may not be shared, by the patient.

This shared laughter suggests coalition formation between patients' partners.⁴ Further qualitative analysis will be conducted to provide a more comprehensive understanding of the events prior to and during shared laughter in patients' interactions. This will also take into account the potential impact of disagreement on laughter patterns. [ENREF 5](#)⁵

The preliminary results of this study suggest that laughter may signal others' discomfort when a patient is not actively participating in the conversation. Moreover, laughter in multiparty interaction may be an indicator of coalition between pairs at specific points during social encounters. This may, in turn, influence participants' experiences of rapport in social interaction.

References

1. Social Exclusion Unit. Mental Health and Social Exclusion. In: Minister OotDP, ed. London; 2004.
2. Lavelle M, Healey PGT, McCabe R. Is nonverbal communication disrupted in interactions involving patients with schizophrenia? *Schizophrenia Bulletin* in press.
3. Haakana M. Laughter in medical interaction: From quantification to analysis, and back. *Journal of Sociolinguistics* 2002;6(2):207-235.
4. Bryant G. Shared laughter in conversation as a coalition signaling Paper presented at: XXI Biennial International Conference on Human Ethology 2012; Vienna, Austria.
5. Osvaldsson K. *On laughter and disagreement in multiparty assessment talk*. Vol 24. Berlin, ALLEMAGNE: Mouton de Gruyter; 2004.
6. Kay S, Friszbein A, Opler LA. The Positive and Negative Syndrome Scale for Schizophrenia. *Schizophrenia Bulletin* 1987;13:261-276.