

## **Nonverbal Responsivity in Schizophrenia: An analysis of patients' social interactions.**

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Patients with schizophrenia have difficulty interacting with others but the nature of this deficit remains unknown. Successful face-to-face interaction relies on partners' nonverbal coordination to regulate and manage conversation. For example, speakers and listeners frequently use head nodding to request and provide feedback without disrupting the verbal message. Patients with schizophrenia have difficulty interpreting nonverbal cues during 'off-line' social cognitive tests, but it is unclear if this translates to their 'on-line' interactions. This study investigated patients' nonverbal responsiveness through analysis of speaker and listener nodding during patients' social interactions.

*Method:* 3D motion-capture techniques recorded 20 patient (1 patient, 2 healthy-participants) and 20 control (3 healthy-participants) interactions. Healthy-participants were unaware they were interacting with a patient. Windowed cross-correlation analyses assessed coordination of nodding between the speaker and primary listener (identified by speaker gaze). Mixed model analyses compared coordination across conditions.

*Findings:* As listeners, patients' coordination with speakers did not differ from controls ( $p > .1$ ). Compared to controls, listening patient group healthy-participants were more coordinated with patients ( $p < .01$ ) and less with each other ( $p < .01$ ). Thus, although patients display nonverbal responsiveness, others are detecting anomalies in the patients' behaviour, resulting in increased coordination with the patient to the detriment of coordination with each other.