

S-05-002**Video-based quantification of body movement indicates negative symptoms: a replication**

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Objective: In schizophrenia, abnormalities in nonverbal behaviors have always been considered as highly relevant. However, due to methodological limitations, nonverbal behavior was rarely quantified objectively. Recent methodological advances now allow a quantification of body movement from ordinary video recordings. We showed that patients' objectively measured amount of movement in social role-play interactions was closely associated with their symptom profiles (Kupper, Ramseyer, Hoffmann, & Tschacher, Schizophrenia Research 2010). In the present study, a replication of these results in the context of semi-standardized PANSS (Positive and Negative Syndrome Scale) interviews was intended.

Methods: 17 patients with schizophrenia were analyzed during the initial 15-min sequence of a videotaped PANSS interview using Motion Energy Analysis (MEA). The amount of patients' movement was then correlated with their PANSS symptom scores.

Results: Sizeable and significant correlations between negative symptoms and reduced movements ($r = -.68, p < 0.01$) and reduced movement speed ($r = -.80, p < 0.001$) were found. Moreover, cognitive symptoms were related to reduced movement speed ($r = -.70, p < .01$).

Conclusion: Negative symptoms were reliably indicated by patients' nonverbal behavior in psychopathology interviews. Hence, the main result of our earlier study, examining patients' nonverbal behavior in role play tests, was replicated for the less structured interactions in psychopathological interviews. Results could encourage the use of MEA in a wide range of videotaped social interactions of patients with schizophrenia and other psychiatric disorders.

Policy of full disclosure: None.

S-05-003**Association between instrumental measurements of dyskinesia and schizotypy in subjects with auditory verbal hallucinations and healthy controls**

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Objective: Spontaneous dyskinesia is associated with non-affective psychosis but few studies have been done on its relation with sub-clinical psychotic experiences. The concept of psychosis as a continuous phenomenon suggests similar associations at the non-clinical end of the psychosis spectrum. We examined spontaneous dyskinesia and schizotypy in subjects without a psychiatric diagnosis who experience auditory verbal hallucinations (AVH), patients with a non-affective psychotic disorder, and healthy controls.

Methods: The current study was part of a larger study in subjects experiencing AVH with no diagnosis of a psychotic disorder. Subjects with AVH and healthy controls were recruited using a website with information about hearing voices (www.verkenuwgeest.nl). Mean force variability (FV) was taken as a proxy for upper extremity dyskinesia and was measured with a mechanical instrument. Dyskinesia was defined as a FV score higher than the 95th percentile of the control group. Schizotypal tendency was assessed by means of the Schizotypal Personality Questionnaire (SPQ).

Results: Participants with AVH, healthy controls and psychotic patients did not differ with regard to gender, age or total years of education. The

cut-off score for FV derived from the 95th percentile in the control group was 3.11. Based on this criterion, 1, 8 and 14 persons in the control-, AVH group and patients showed dyskinesia. Testing the AVH against the control group and patients revealed significant differences (Fisher's Exact Test 2-sided; $p = 0.028$ and $p = 0.037$ respectively). The correlation between FV and schizotypy measured with Pearson's r was .35 ($p = 0.021$) in the AVH and .31 ($p = 0.046$) in the control group.

Conclusion: Our findings of intermediate levels of dyskinesia in persons with AVH in comparison with healthy controls and patients with a psychotic disorder, and the relationship between mechanically measured dyskinesia and schizotypy in control and AVH group are in accordance with psychosis as a continuous phenomenon.

Policy of full disclosure: This study was part of a larger study on Auditory Verbal Hallucinations which was supported by a grant from the Dutch Science Organisation (Nederlandse Wetenschappelijke Organisatie NWO, nr 916.56.172).

S-05-004**Actigraphy movement patterns indicate psychopathological dimensions in schizophrenia**

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Objective: Schizophrenia spectrum disorders are frequently associated with various motor abnormalities, including hypokinesia. In addition, psychopathological signs may involve presentation with motor output. Wrist actigraphy has proven feasible for ambulatory monitoring of activity in schizophrenia. Here, we summarize the findings associated with psychopathological dimensions.

Methods: In a series of studies in schizophrenia spectrum disorders we recorded spontaneous motor behavior using wrist actigraphy. In addition, we assessed psychopathology with the PANSS and the Bern Psychopathology Scale.

Results: In two studies, reduced motor activity was associated with increased negative syndrome severity. In fact, in a longitudinal study, low activity levels predicted the outcome of negative symptoms within and between psychotic episodes. Among negative symptoms, anhedonia/avolition had strongest correlations with activity levels. When the temporal structure of movement patterns was analyzed, positive symptom severity and disorganization correlated with irregular movement patterns, whereas negative symptoms were not related to the stability of movement patterns. The Bern Psychopathology scale contains a global motor evaluation, which demonstrated excellent agreement with objective assessments of activity levels.

Conclusion: Hypokinesia may be easily and objectively assessed with wrist actigraphy in schizophrenia spectrum disorders. Hypokinesia correlates cross-sectionally and longitudinally with negative syndrome severity. Instead, instable movement patterns are associated with disorganization. Thus, actigraphy may inform on symptom dimensions in schizophrenia.

Policy of full disclosure: None.

S-06 The single symptom approach: understanding and treating auditory verbal hallucinations and formal thought disorders**S-06-001****Auditory hallucinations and ego-disturbances: imaging of dysfunctional brain networks**

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