

# Microanalysis of pointing gestures during psychotherapy with patients with social phobia

**Objectives:** The study aims at identifying markers in hand gestures during psychotherapies. After successful remission, patients with social phobia (SP) show increased social functioning. It was therefore hypothesized that patients display this increase in functioning on a cognitive level by an increased use of deictic/direction gestures (pointing gestures) at the end of the psychotherapy, in patients with remitted symptoms, compared to stagnated symptoms.

**Methods:** 42 video recordings of patient-therapist dyads with non-improved (n=11 dyads) and improved symptoms (n=10 dyads) from the Social Phobia Research Network (SOPHO-NET) project were investigated in first psychotherapy sessions and in pre-last sessions. Two certified raters analyzed 4 randomized video sequences per dyad (in total 2 x 4 x 21 video sequences) of patients' and therapists' gestures and actions with NEUROGES-ELAN for the analysis of movement behavior.

**Results:** In the dyads of the stagnated symptoms group, patients showed a significant increase in frequency of deictics/directions in the last psychotherapy session, compared to the first. Concerning the measurement parameters duration and proportion of time, deictics/direction units in dyads with improved symptoms increased significantly in the last session, compared to the first session. **Conclusions:** As pointing gestures are egocentric, explicit, and mostly generated in the left hemisphere, they may be related to language, as another left-hemispheric process. Their increase in duration/proportion of time is associated with symptom remission, reflecting an improved expression of thoughts. A frequency increase is related to stagnated symptoms, which reflects that frequent explicit references to external targets may be a sign for behavior-related avoidance.

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