
**Introduction:** Although exposure is accepted as an effective method in the treatment of anxiety disorders, a true understanding of the mechanisms of exposure remains unknown. Foa and Kozak (1986) proposed two necessary conditions for exposure to be successful. First, the fear must be adequately activated. Secondly, new information, that is incompatible with the pathological fear, needs to be added. Adequate activation of the memory fear system should lead to an activation of all stimulus and response features (behavioral, physiological and verbal responses) of that structure (Lang, 1977). The relationship between (subjective) anxiety and physiology, as one of the response systems, has been extensively studied, using primarily heart rate and skin conductance as physiological indexes of anxiety. Remarkably, given its central role in psychotherapy, speech as a physiological measure in relation to anxiety, has been understudied.

**Method:** The present study will focus on the relationship between paralinguistic characteristics of speech - in which the main components of the fear structure (because speech contains verbal, behavioral and physiological components) are represented - and (changes in) subjective anxiety during exposure to fearful stimuli. The presented study was set up to study paralinguistic aspects of speech as a treatment outcome measurement in the prolonged exposure treatment of patients with PTSD. PTSD-patients underwent both before and after their treatment two controlled imagined exposure sessions of 9 minutes each in which they were confronted with the fearful memories of their trauma. These sessions were recorded digitally. Subjective fear was measured every 3 minutes, using the Subjective Unit of Distress.

**Analyses:** The speech signal was analyzed, using a specialized program, called PRAAT. Derived measures are: (1) the fundamental frequency (FO), both mean and variation, (2) the intensity, both mean and variation, and (3) rate of speech.

**Hypotheses:** The hypothesis is that the subjective fear will decrease after effective treatment, which means that habituation to the fearful stimuli has taken place during treatment. As a reflection of these subjective fear memory structure changes, we expect the mean fundamental frequency to decrease after successful treatment, whereas the variation in speech will increase. In addition, we expect the intensity of speech to decrease and the variation in intensity to increase. Finally, rate of speech is expected to increase.

**References:**