

# RELATIONS BETWEEN TEMPO PERFORMANCE, EXPRESSIVENESS, AND MUSIC THERAPY OUTCOME

*Veronika Busch*

Humboldt-University of Berlin, Germany

## Background

Patients with chronic pain suffer from “inhibited expressiveness” (e.g. high muscle tonus; inflexible mimic and gesture). The “Heidelberg Model” for music therapy with patients suffering from chronic pain focuses on emotional flexibilisation and enhancement of expressiveness through musical flexibilisation. According to music psychological research reduced expressiveness should especially affect patients’ musical tempo and timing performance as important parameters for musical expression.

## Aims

The claim by music therapists that musical performance mirrors psychological parameters is questioned. Positive correlations between tempo performance, expressiveness, and therapy outcome would support the claim and might have implications for music therapeutic treatment of chronic pain.

## Method

A controlled experimental study with 16 patients receiving music therapy, 21 pain patients not receiving music therapy, and 30 healthy subjects is conducted. Psychological questionnaires measure expressiveness, therapy outcome, pain intensity, and affective pain perception pre, during, and post

20 music therapy sessions. Flexibility in musical tempo performance is assessed by a standardised test with subjects synchronising on an electronic drum to a musical stimulus which changes in tempo. Test design also includes tapping tasks.

## Results

Pain patients tend to show less expressiveness than healthy subjects. Therapeutic success and tempo performance are positively correlated to expressiveness. Tempo performance differs with regard to therapy outcome. Best results for synchronising with musical stimulus are found at subjective tapping tempo.

## Conclusion

Because the selected musical and psychological parameter are found to be related, it is likely that music therapy supports psychological cure. For the treatment of chronic pain, enhancing expressiveness through active music therapy seems to be effective. Taking the subjective tempo of a patient as a starting point for music therapeutic improvisation supports successful musical communication. Further research into musical parameters is needed to develop specific music therapeutic interventions.