



**HEIDELBERG**  
UNIVERSITY  
HOSPITAL

# The MUSED study: Music Therapy for Depression

A Randomized Controlled Trial to Evaluate  
Psychobiological Effects of Music Therapy on Depression in Adult Women

C. Gäbel<sup>1</sup>, S. Rittner<sup>1</sup>, M. Stoffel<sup>1</sup>, C. Aguilar-Raab<sup>1</sup>, M.N. Jarczok<sup>2</sup>, B. Ditzen<sup>1</sup>, M. Warth<sup>1</sup>

<sup>1</sup>Institute of Medical Psychology, University Hospital Heidelberg

<sup>2</sup>Clinic for Psychosomatic Medicine and Psychotherapy, University Hospital Ulm

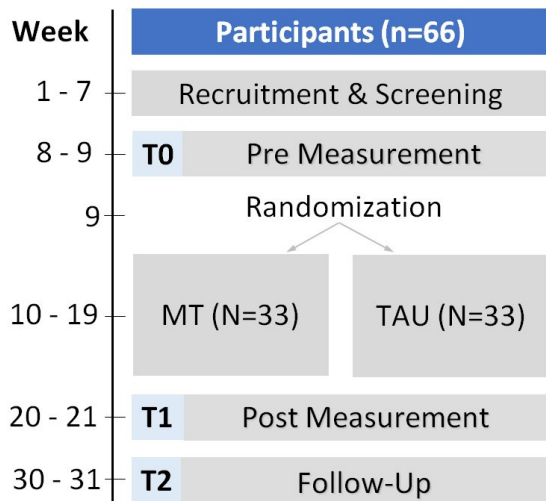
## Background

People suffering from major depressive disorder (MDD) commonly display impaired emotion regulation and accompanying deficits in the regulation of psychobiological stress systems. Music therapy (MT) is a complementary therapeutic approach that may contribute to an effective treatment of MDD. Initial studies indicate that MT may impact depressive symptoms and psychobiological mechanisms. However, further research is needed to pursue these findings.



## Objectives

We aim to investigate the effectiveness of MT on the improvement of self- and observer-rated depressive symptoms. Moreover, we will examine the impact of the therapy on circadian biological rhythms in daily life. In particular, we will monitor the circadian rhythm of vagal tone indexed by heart rate variability (HRV) and the diurnal cortisol pattern within days indicative for functioning of the hypothalamus-pituitary-adrenal (HPA) axis accompanied by an ecological momentary assessment (EMA).



**Figure:** Study procedure.  
MT = Music Therapy,  
TAU = Treatment as Usual.

## Methods

66 adult women between 18 and 65 years with a mild or moderate depression will be eligible for participation. The participants will be randomly assigned to either the intervention group (IG) or the control group (CG). The IG receives 10 weekly MT group sessions in addition to treatment as usual (TAU) whereas the CG obtains solely TAU over the period of 10 weeks. Psychobiological data (48h HRV, 6 saliva samples each on two consecutive days) will be ascertained before (pre) and after the intervention period (post). Additionally, follow-up self-report data will be collected 10 weeks after the end of intervention. We will analyze the psychological data regarding group x time interaction effects using repeated-measures analysis of variance. The circadian courses of HRV will be determined via Cosinor analysis whereas cortisol profiles will be analyzed with multilevel modeling.

## Expectable Results

The results of the present study may validate prior findings of MT being effective in the treatment of MDD. Furthermore, they will potentially help to understand, how MT affects HPA and autonomic regulation processes. The EMA approach offers the potential to test for covariance between different psychobiological markers in daily life.

## Contact

Christine Gäbel, M.A.  
Institute of Medical Psychology, University Hospital Heidelberg  
[Christine.gaebel@med.uni-heidelberg.de](mailto:Christine.gaebel@med.uni-heidelberg.de)

