

Emotion Modulation in Obsessive-Compulsive Spectrum Symptoms: The Role of Music in Everyday Life



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Abstract

Objective: There are only a small number of studies on the use of music for emotion modulation in everyday life of patients with mental disorders. Disorders with obsessive-compulsive spectrum (OCS) symptoms have not been considered separately, yet.

Methods: To study emotion modulation through music, IAAM (Inventory for the Measurement of Activation and Arousal Modulation) was used as a well-evaluated tool. Patients with OCS (n = 15) and patients with other mental disorders (nOCS, n = 174) from the University Hospital for Psychiatry and Psychotherapy Marburg as well as healthy controls (n = 430) were compared using a multivariate analysis of variance.

Results: There were significant differences between the three groups. The analysis of post-hoc tests (Scheffé) showed that the nOCS group used music increasingly for relaxation ($p < 0.001$), for cognitive problem solving ($p = 0.002$) and for the reduction of negative effects ($p = 0.004$) compared to the controls. In contrast, the OCS group showed no significant differences, neither in comparison to the nOCS nor to the controls.

Discussion: The results suggest that patients with OCS symptoms are actually taking advantage of music for emotion modulation. They are in the "midfield" between patients with other mental disorders, who use music partly excessive to reduce negative emotions, and healthy controls, who use music rather for positive stimulation. Investigations to the extent to which OCS patients could benefit from a targeted instruction on emotion modulation through music in everyday life are missing.

Keywords: Obsessive-Compulsive Spectrum; Music; Mental Disorders; Emotion

Introduction

In the course of a continuous medialization in the society music plays an enormously increasing role with psychological and psychosocial processes and thus particularly with mental disturbances. In fact, patients with mental disorders show a more intensive use of music for emotion modulation in everyday life compared to healthy subjects [1,2]. In addition, the available findings point to differences in the type of emotion modulation between the different diagnosis groups. Patients with neurotic disorders in the emotion modulation profile are the most similar to healthy volunteers [2]. Hereby, obsessive-compulsive spectrum (OCS) symptoms have not been considered separately, yet. Since dysfunctional emotional modulation strategies are also present in patients with such symptoms (for example, processing of highly

aversive affects such as disgust or anxiety), a changed approach to the use of music in everyday life (UofM) can be presumed, which could provide further insights into pathogenetic mechanisms as well as therapeutic approaches.

Here we use the concepts of the OCS in the sense of Zaudig and Niedermeier [3], which describe a continuum between the two poles compulsiveness and impulsivity. While syndromes such as obsessive-compulsive disorder, hypochondria, body dysmorphic disorder, anorexia nervosa, and depersonalization syndrome are grouped near the obsessive-compulsive pole, syndromes such as borderline personality disorder, paraphilia, pathological gambling, and trichotillomania are found near the pole of impulsiveness.

With respect of this specific research question the present investigation has to be considered a pilot study. We hypothesized that patients with OCS symptoms have more difficulty in dealing with emotions flexibly and therefore have fewer strategies to modulate their affects in a functional way. Due to their relation to Zaudig's pole of compulsiveness, it is expected that the handling of emotions through music will be more rigid in everyday life than in healthy controls.

To investigate this further, the research paradigm "The Use of Music in Everyday Live" (UofM) was used. The term UofM refers to the existence of a learned behavior or active action strategy which is applied consciously by individuals who use music to influence existing everyday states (e.g. positive or negative emotions, affects, arousal, concentration, vigilance or processes of social attachment) [2,4].

Methods

Subjects

Of n=312 asked patients n=190 patients (61%; 111 female and 79 male; mean age 37.4 ± 13.3 years, range 18-82 years) admitted at a clinic for psychiatry and psychotherapy, participated in the study carried out in 2005 until 2007. One patient was excluded due to missing data for this exploration. No patient of the study was treated with music therapy during the actual inpatient treatment. The patients suffered from mood affective disorders (36.4%), neurotic disorders (24.2%), disorders of adult personality and behavior (17.9%), schizophrenia spectrum disorders (12.2%), psychoactive substance use (6.3%), and others. Gender and age within the study group did not correlate significantly. One patient was excluded due to missing data for this exploration, so that a total of n=189 patients have been included into the present investigation.

The reference sample included 430 healthy individuals (219 female; mean age = 34.6 ± 18.8 years; range = 12 - 80 years) pooled from different study samples: pupils aged 12-16 years (n = 94),

first-semester students (n = 129), and older individuals recruited by chance from selected middle-class companies, insurance institutions, and club associations (Lahn-Dill-Kreis, Kreis Gießen, Germany; n = 106), as well as patients of a general practitioner (n = 101).

Patients with OCS (n = 15, of which n = 5 obsessive compulsive disorder, n = 5 anorexia nervosa, n = 4 obsessive compulsive disorder, n = 1 tic disorder) and patients with other mental disorders (nOCS, n = 174) from the University Hospital for Psychiatry and Psychotherapy Marburg as well as healthy controls (n = 430) were compared. The groups studied did not differ in age, gender or the level of global functioning.

Assessment and instruments

Patients received self-assessment questionnaires. The "Inventory for the assessment of Activation and Arousal modulation through Music" (IAAM) with 62 items on a 5-point-scale showing high reliability and validity [2,5-10] measured the situation-dependent everyday life UofM according to the following scales for the measurement of music related behavior tendencies: Relaxation, Cognitive Problem Solving, Reduction of negative Activation, Fun Seeking and Arousal Modulation. Sociodemographic data and data on the mental disorder were taken from the medical records. The Global Assessment of Functioning Scale (GAF) [11] was used to assess the functioning level of the patients.

Statistical procedures

The three patient groups (OCS, n=OCS, controls) were compared using a multivariate analysis of variance. Two-tailed Student's t-tests and chi-quadrat-tests were used to find out group differences, e.g. in gender. In this study the term "significant" was used for results with a p-value of ≤ 0.05. The data were analyzed using Statistical Package of the Social Sciences (SPSS 21.0 for Windows) software.

Results

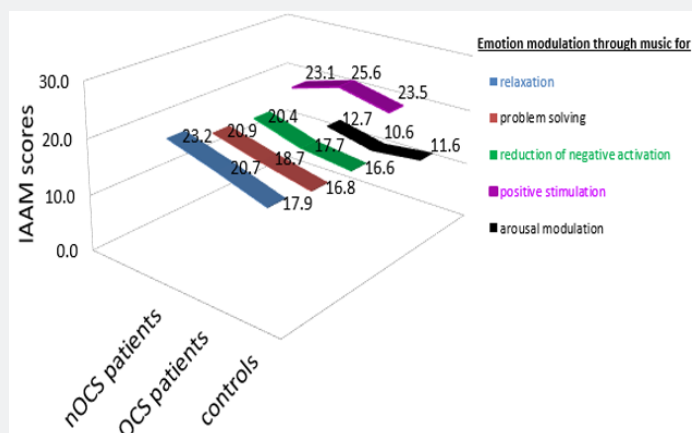


Figure 1: nOCS group used for relaxation (p<0.001), for cognitive problem solving (p=0.002) and for the reduction of negative effects (p=0.004) in comparison to the controls.

There were significant differences between the three groups overall (general linear model, $p < 0.001$). There were no significant differences in the analysis of post-hoc tests (Scheffé) for the OCS group, neither in comparison to the nOCS nor the controls. However, the nOCS group used music increasingly for relaxation ($p < 0.001$), for cognitive problem solving ($p = 0.002$) and for the reduction of negative affects ($p = 0.004$) in comparison to the controls (Figure 1).

Discussion

The results suggest that patients with OCS may use music for emotion modulation. They are apparently in the “midfield” between patients with other mental disorders that use music partly excessive to reduce negative affects, and healthy controls, the music rather for positive stimulation. Thus, patients with OCS seem to be rather restrained or controlled in their handling of music. However, it has to be assumed that the perceived, often massive aversive affects in OCS should evoke more intense emotion regulation strategies, e.g. by allowing and expressing strong emotions. The fact that this is not the case could be the reason why those affected individuals are suffering from this disorder. Interestingly, the OCS patients also indicated an increased use of music for positive stimulation (see graph). This could indicate that they are still trying their best to influence their emotional system favorably. Thus, our hypothesis of this first study, that patients with OCS symptoms have more difficulty in dealing with emotions flexibly and therefore have fewer strategies to modulate their affects in a functional way, has been affirmed.

To our knowledge this is the first study to classify the use of music in everyday life in patients with OCS symptoms compared to patients with other mental disorders and healthy control subjects. The study shows that these differences are quantifiable. Interesting and challenging in practice is the question of how these patients can be supported in their self-efficacy by further developing their emotion modulation strategies. For example, a specific psychoeducation with regard to UofM might be helpful [12,13]. However, investigations to the extent to which OCS patients could benefit from a targeted instruction on emotion modulation through music in everyday life are missing.

On the other hand, a conventional music therapy is helpful. A music therapy can be considered as an adjunct to standard care to be extremely useful to advance psychotherapeutic processes by developing affective change approaches. This has also been demonstrated recently [14]. Considering that the trend in OCD spectrum disorders is towards a self-determined, self-responsible and individual, emotion-modulating therapy [15], rather than a sustained, habitual therapy, as previously advocated, music therapy can be the decisive factor in many patients as a – so far missing – factor, which advances the therapy qualitatively and thus sustainably. Results on transfer effects of music therapy in dealing with music in everyday life are already available [16].

In a recent study on another study sample, we could show that the application of music therapy allows the development of more intensive emotional processing strategies on the basis of individual personality dimensions than on patients who did not receive music therapy [5]. For example, patients with a subjectively experienced low self-esteem greatly benefited from newly learned strategies to positively influence their emotional experience, e.g. by consciously listening to music. While patients without music therapy seemed to “vent off” their emotions or even to handle them in an unhelpful way, patients with music therapy could acquire more conscious strategies by bringing their own selves into the emotions, thereby provoking a helpful transformation of the emotional experience. This circumstance in turn seems to lead to a positive “feedback” on the self: the development of individual emotion modulation strategies through music therapy contributes to a constructive change of personality dimensions. Incidentally, this corresponds to a current trend in psychotherapy research, according to which traits are by no means unchangeable, as was previously believed, but are suitable for further development. This circumstance could also be a plausible explanation for constructive long-term effects of music therapy: music therapy would thus extend far beyond the actual period of music therapy and pave the way for a more attentive handling of emotions, which is a key in the psychotherapy of many mental illnesses. Patients can actively help to shape their emotional life by acting responsibly. Music and music therapy is certainly only one of many media. However, music is a very complex medium in that it addresses multiple levels (emotional, cognitive, physical, social) at the same time - an ideal medium for patients who want to open up to an intensive psychotherapeutic process. Generally, there is a need for further studies that need not rely solely on music as a medium, but also on other resource-oriented creative therapy techniques, such as art therapy.

Limitations and Strengths

The results are limited mainly by the unequal group sizes. Accordingly, the results must be interpreted with caution. One limitation is the cross-sectional design, instead of a prospective or randomized-controlled design. Therefore, causal relationships cannot be inferred. The strength of this study consists of the empirical approach on the basis of an emotion modulation concept of UofM. The data represent real world conditions. Patient groups did not differ in gender, age and the global functioning as measured by the GAF (global assessment of functioning) score, so that the results are representative. The psychiatric population might show some results in a more focused way than in the general population – the examination of differences between the groups might therefore be facilitated. Furthermore, the hypotheses generated findings are helpful for further investigations. Recently, we completed a large study on a different population, allowing for replication testing. In addition, the present study is useful to generate therapeutic hypotheses for patients receiving music therapy.

Conclusion

The use of music often has a crucial role in everyday life of patients with mental disorders. For music is a cognitive-emotional entity which both portrays and influences psychological processes, psychiatric pathomechanisms might be additionally unraveled by this approach. This study shows first data on the use of music for emotion modulation in everyday life of patients with obsessive-compulsive spectrum symptoms. The findings might reflect an overcontrolled affectivity which can be modulated by suitable therapy procedures. The acquisition of a freer use of emotion modulation strategies leads to increased self-efficacy, which in turn should be helpful for therapeutic success. Thus, on the basis of these findings and considering the ubiquity of music, emotion modulation strategies for the functional use of music can be worked out, which could be therapeutically effective in the long term.

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Author Contributions

SG participated in the design of the study, data collection, data entry, data interpretation, interpretation and writing of the text. RvG participated in the consultation in the conception of the study, in the data entry, the data analysis, interpretation and correction of the text.

Declaration of Conflicting Interests

The authors declare that there are no competing interests.

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Ethical Approval

Patients gave written informed consent; the study was approved by the Ethics Committee of the University of Marburg, Germany.

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