

Music interventions can be effective against stress, says researcher

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Stress has become an integral part of our society. Research shows that the negative impact of stress is a major risk factor for the development of physical and mental health problems. It follows that we try to protect

ourselves against daily and persistent stress in many different ways. Music interventions appear to be an effective and cost-efficient tool. To investigate their effectiveness, researcher Martina de Witte and her colleagues analyzed hundreds of studies with a total of more than 12,000 participants.

To cope with the negative impact of stress, millions of people around the world use tranquilizing medications. However, these can have all sorts of harmful side effects. "This demonstrates the urgent need for development of and research into innovative and non-pharmacological interventions for stress reduction—especially for patient groups that are known to be more vulnerable to stress and for which psychological interventions are less appropriate, such as people with mild intellectual disabilities," says Martina de Witte.

Given the known fact that listening to and making [music](#) can reduce stress, music interventions are increasingly used in medical and [mental health](#) care. "Moreover, the experience- and action-oriented approach of music interventions makes them particularly suitable for people with intellectual disabilities," says De Witte.

In addition to analyzing their effects, she and her team conducted research into the exact use of different types of music interventions, and into which aspects of these interventions are important in treating stress-related complaints. "In practice, we see that two types of music interventions are used in particular: 1) "Music medicine" interventions, in which the aim is to relax by listening to specific relaxing music, and 2) music [therapy](#) interventions, which are used to treat stress and tension. The latter are goal-oriented and methodical interventions, offered by a qualified music therapist, that involve listening to music and making music together, such as songwriting, singing together, or musical improvisation."

High-grade evidence that music interventions can be effective

In a first study, De Witte and colleagues analyzed over 100 studies with a total of almost 10,000 participants, of whom 4,838 took part in a music [intervention](#) group (musical activities or music therapy). The interventions took place in clinical, medical and work or study-related settings. The remaining 4,779 participants formed the control group. This first study showed that music interventions have small to medium-sized positive effects on both physiological stress-related arousal (increased blood pressure, heart rate, hormone levels) and experiences of stress (anxiety, restlessness or nervousness).

Music appears to be able to reduce the physiological effects associated with stress, such as increased heart rate, blood pressure and respiratory rate.

Music has positive effects on the subjective experiences of stress, such as the feeling of not being able to cope, worrying and nervousness.

"This study provides high-grade evidence that music interventions can be effective in reducing stress and thus justifies the increasing use of music interventions in both medical and mental health practice," argues De Witte.

Music therapy appears to be especially effective in reducing stress

In a second study, De Witte and colleagues made a systematic analysis of studies into the stress-reducing effects of music therapy interventions in particular. The result was an overview of 47 studies in total, with a control group of 2,747 subjects.

The researchers concluded that music therapy has a medium-sized to large effect on stress-related outcomes. "We found that music therapy in

particular is effective in reducing [stress](#). This can possibly be explained by the personalized, tailor-made approach of the music therapist, who is specifically trained to tailor the music to the needs of the patient," concludes De Witte. According to De Witte, these results justify the increasing use of music therapy by a qualified music therapist in both mental health and medical practice. Given the added value that qualified music therapists provide, De Witte recommends that careful consideration be given to whether music therapy is necessary or music listening interventions, as already offered by many care providers, are sufficient.

"Overall, we may conclude that music interventions, in the form of both music listening and music therapy, delivered by specifically educated and trained therapists, can be of great benefit to patients in both medical and mental health settings," concludes De Witte.

More information: Martina de Witte, Music Interventions for Stress Reduction (2021). PhD thesis, University of Amsterdam

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