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Emotional reactions to music in a nationally representative sample of Swedish adults
Prevalence and causal influences

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Abstract

Empirical studies have indicated that listeners value music primarily for its ability to arouse emotions. Yet little is known about which emotions listeners normally experience when listening to music, or about the causes of these emotions. The goal of this study was therefore to explore the prevalence of emotional reactions to music in everyday life and how this is influenced by various factors in the listener, the music, and the situation. A self-administered mail questionnaire was sent to a random and nationally representative sample of 1,500 Swedish citizens between the ages of 18 and 65, and 762 participants (51%) responded to the questionnaire. Thirty-two items explored both musical emotions in general (semantic estimates) and the most recent emotion episode featuring music for each participant (episodic estimates). The results revealed several variables (e.g., personality, age, gender, listener activity) that were correlated with particular emotions. A multiple discriminant analysis indicated that three of the most common emotion categories in a set of musical episodes (i.e., *happiness*, *sadness*, *nostalgia*) could be predicted with a mean accuracy of 70% correct based on data obtained from the questionnaire. The results may inform theorizing about musical emotions and guide the selection of causal variables for manipulation in future experiments.

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Affective reactions to musical stimuli reflect emotional use of music in everyday life

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Abstract

Music is a common means for regulating affective states in everyday life, but little is known about the individual differences in this behaviour. We investigated affective reactions to musical stimuli as an explanatory factor. Forty-four young adults rated self-selected music regarding perceived and felt emotions, preference, pleasantness and beauty. The ratings were reduced into five factors representing affective response tendencies. The participants also filled in the Music in Mood Regulation (MMR) questionnaire assessing seven music-related mood regulation strategies in everyday life. High beauty and pleasantness ratings for liked music correlated with the use of music for inducing strong emotional experiences, while ratings reflecting high agreement with the emotional content of preferred musical stimuli correlated with using music as a means for dealing with personal negative emotions. Regarding musical background, informal engagement through listening, but not formal musical training, correlated with increased use of music for mood regulation. The results clarify the link between the affective reactivity to music and the individual ways of using music as a tool for emotional self-regulation in everyday life.

aesthetic responses affective responses emotion mood regulation music

usic can make a listener feel negative emotions

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Loved music can make a listener feel negative emotions

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Abstract

This paper tested the applicability of cognitive unit activation (CUA) theory to explain the paradoxical enjoyment of felt negative emotions in music. CUA refers to preference for activation of cognitive units (as distinct from non-activation) as proposed by Martindale (1984, 1988). Content analysis of open-ended responses by 60 participants to a self-selected loved and hated piece of music was conducted. Negative emotions were spontaneously evoked for the loved music condition by 19 participants. The same salient emotions (e.g., sadness) could be evoked by both loved and hated music. The distinction between terms used to described loved versus hated music led to a reappraisal of past literature, with the conclusion that there are qualitative differences among negative emotions, those which occur as affect valence (AV) and those which occur as emotion valence (EV). When a piece of music is hated, the disliking or avoidance response in itself is considered negative AV – regardless of the EV (e.g., sadness) induced in the listener. Consequently, the CUA model is modified by addition of a negative AV inhibiter to explain how sadness can activate a cognitive unit, thus adding to the enjoyment of the experience, without producing avoidance intentions/behaviors (dislike of the music leading to a desire to stop it or leave it). A good match between felt and expressed emotions was more frequently reported (n = 34) for loved than for hated pieces (n = 12), suggesting activation of "mirror circuits."

aesthetic emotions affect cognitive theory emotion locus empathy negative emotion in music preference

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The relationship between music-related mood regulation and psychopathology in young people

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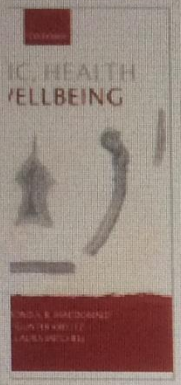
Abstract

The aim of the present study was to investigate how music-related mood regulation relates to psychopathology – specifically depression, anxiety, and stress – in young people, through examining the nature of the relationships between individual music-related mood regulation strategies and psychopathology. The sample consisted of 146 (53 male and 93 female) university students aged between 17 and 24 years. Participants completed an online questionnaire addressing levels of psychopathology, music-related mood regulation behaviours, and personal music-related information. Results indicated that, as a whole, music-related mood regulation predicted levels of psychopathology. High use of the mood regulation strategy Discharge (venting of negative emotion through music) predicted high levels of depression, anxiety, and stress; Diversion (distraction from worries and stress) predicted high levels of anxiety and stress; and Entertainment (happy mood maintenance and enhancement) predicted low levels of depression. The results suggest that music-related mood regulation may perform a maladaptive function in certain individuals that promotes psychopathology; however, it is equally plausible that young people experiencing psychopathology are more likely to employ music in an attempt to reduce their symptoms. These are avenues for consideration in future research. The present study has practical implications for the use of music as a self-therapeutic resource and in the treatment of young people with psychopathology in music therapy settings.

adolescents anxiety depression mood regulation music therapy psychopathology use of music stress young people



Music, Health, and Wellbeing
Raymond MacDonald, Gunter Kreutz, and Laura Mitchell

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Pop Music Subcultures and Wellbeing

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This chapter focuses on whether pop music subcultures promote self-harming and other factors related to delinquency. Put simply, it considers whether listening to certain forms of pop music is related to a range of behaviours that society deems undesirable. It begins by briefly describing some of the instances where pop music has caused public outrage around the world. From here, it addresses whether there is a relationship between delinquency and an interest particularly in rap and rock music, before briefly noting how an interest in these musical styles is also associated with the commission by young fans of a range of other undesirable behaviours. The chapter then considers another possible consequence of musical taste that, in addition to delinquency, has also caused grave concern, namely self-harming and suicide. Finally, it addresses whether adolescents can accurately comprehend pop music lyrics, and whether pop music should be censored.

Keywords: popular music, undesirable behaviour, delinquency, music lyrics, rap music, rock music, adolescents, self-harming, suicide

Can Music Cause Harm? (Part Two)

- 17 Comments

Can music cause harm? In my last post, I talked about how music as a sound stimulus can contribute to overstimulation, increased anxiety, and hearing loss. Many times, people experiencing this kind of music- or sound-related stress show their discomfort in negative behaviors rather than communicating verbally, so it is especially important to be aware of the how the sound environment is affecting the person you care for if they can't tell you what's bothering them.

Music can also potentially cause harm in the form of unexpected emotional or physical responses that could defeat a person's coping mechanisms. There can, in fact, be negative responses to music that you might not expect, and not being aware of and prepared for these negative responses can lead to harm. Here are four areas of concern:

#1. Unexpected emotional responses.

We know that music is closely tied to our emotions; in fact, brain research shows quite clearly that music lights ups parts of the brain that are connected to emotion, including the limbic system. **What is less clear is how specific musical elements and aspects of a person's own life history affect the person's experience of a musical selection.** We tend to think that certain songs are "sad" and others are "happy," and to some extent, this is true. Music that is at a moderate to quick tempo and in a major key is often perceived as upbeat or positive, while slower tempo songs in minor keys might come across as sad or contemplative.

The thing is we all have different experiences with various songs, and you can't always predict how a particular song might be perceived by a listener. "Mairzy Doats" might seem like a silly song to celebrate April Fool's Day, or it might remind someone of a beloved mother who just died a few weeks before. "Danny Boy" might seem like a sad, sentimental song for funerals, or it might bring a smile to the person with Irish ancestry. You can't be sure whether a song will bring someone to great joy or to deep sadness.

To complicate things further, we sometimes don't even know how our own feelings will be stirred up by music. Someone might even request a song just because they like it, and then find themselves in tears, with emotions boiling over. **If grief or anger or sadness comes and you can't help the person process these feelings or cope effectively, this could cause harm.**

#2. Unexpected physical responses.

Of course, we must remember that our bodies, minds, and spirits are all co

#3. Feeding into confusion or delusions.

Music can contribute to the confused thinking of a person with dementia or someone who has hallucinations or delusions because of schizophrenia or other forms of psychosis. Many of my clients have dementia, and I often choose songs to bring back pleasant memories and foster social interaction. Sometimes, though, a song might lead a person down a line of confused thinking in a way that can add to their distress. For example, one client of mine, a widow, joined with me in singing, "Let Me Call You Sweetheart" and talked about her sweetheart along with other members of the group. Then, she asked, "where is John? Is he dead?" How do you answer this question? There are various ways of figuring out the best response in this kind of situation, but it is important to remember that **you could add to a person's grief and pain by getting into a pattern of music** that reminds them of their loved one's death, over and over again.

I've also seen music contribute to a person's confusion in a way that increased agitation. For example, singing particular songs reminded one of my clients of her children. In her confusion, this reminded her that she was supposed to pick them up from school. Then, because they weren't there, she became very worried, thinking her kids had been kidnapped. While in this situation I couldn't predict her response, I did know how to soothe her worries and redirect her attention to the group's music. Now I know which songs could feed into her confusion.

#4. Communicating unhealthy messages.

Songs get stuck in our heads. We play the music we like over and over. Thus, **the messages that these songs repeat get stuck in our heads, too**, even the negative ones. No, I don't advocate an outright ban on hip hop or heavy metal, but I do think it's important to pay attention to the words that we find ourselves singing to ourselves in the shower, and to help the people we care for understand and reframe these lyrics before they become part of their automatic thinking.

Think this only applies to music for teenagers? Nope, I don't believe that's true either. In fact, I think the message of the Dean Martin song, "You're Nobody 'Til Somebody Loves You" can be harmful. What if you're singing for someone who never married or who had an abusive relationship? I don't want anyone to think they're "nobody." Repeating these messages – learning them through the music – makes them part of your being, and that can be harmful.

Pay attention!

Music can be cause for great joy, but it can also cause pain and distress. **Music therapists are trained to be aware of all of these concerns**, and are experienced in recognizing the effects that music is having on a person and how to adapt the music for a healing experience. Please talk with your music therapist about these situations. This is our area of expertise, and we want to help!

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The emotional connotations of major versus minor tonality: One or more origins?

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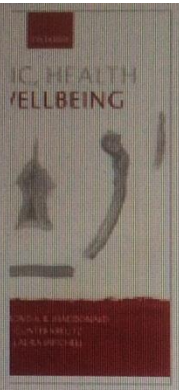
Abstract

The association between major/minor tonality and positive/negative emotional valence is psychologically robust, but without a single accepted explanation. I compare six partially related theories. *Dissonance*: On average, passages in minor keys are more dissonant because, on average, the minor triad is more dissonant (rougher, less harmonic) or because tonal structure is more complex. *Alterity and markedness*: Major triads and scales are more common than minor, and positive valence is more common than negative. Major and positive valence are the norm; minor and negative are marked Others. *Uncertainty*: The minor triad has a more ambiguous (less salient) root than the major, and the minor scale has more variable form and a more ambiguous (less stable) tonic; uncertainty is associated with anger, sadness, distress, and grief. *Speech*: By comparison to major triads and scales, minor contain pitch(es) that are lower than expected – just as sad speech is lower than expected. *Salience*: In diatonic chord progressions, flattened diatonic scale degrees are more salient than sharpened because



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Music Listening and Mental Health: Variations on Internalizing Psychopathology

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Régine Debrosse
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DOI:10.1093/acprof:oso/9780199586974.003.0034

This chapter focuses on the role of music listening in psychopathology, which here refers to 'patterns of behaviours, cognitions, and emotio that are abnormal, disruptive, or distressing either to the person or others around the person. First, it offers a conceptual framework arguing that music listening may have influences on internalizing psychopathology because: music can involve emotion regulation and coping; songs may have social cognitive influences; and music can have psychotherapeutic effects. Second, it presents a review of the empirical literature according to seven basic methodological strategies (models) that can also be used to design future studies: risk factors, compensatory factors, common causes, mediators, moderators, protective factors, and precipitating factors.

Keywords: music listening, psychopathology, music studies, emotions, emotion regulation, risk factors

Music Power

- Benefits
- Harms

Benefits

• In its simplest primitive form, the mere sounds of nature and nature-like instruments give us **pleasure**, when related to basic survival needs: closeness to water, plant, and other animals grazing, mating and singing. Music can be pleasant, relaxing and exciting; it boosts mood, eases tension and awakens consciousness.

• As it gets more sophisticated, particularly its *rhythm* that other animals cannot appreciate or easily follow, it begins to **stir imagination** and create fantasies, as in romantic classics.

• It **stimulates the mind**, by its *mathematical* structure and harmony, as in baroque and early classics.

• It **evokes memories** of events it accompanied in our past, as in songs and easily recognized melodies.

• It **mimics nature's** sounds—rivers, wind, animals, humans, etc.—bringing to mind the very objects or life forms it mimics.

• It **parrots actions**: talking, crying, laughing, walking, running, fighting, and complex emotions and patterns of actions, as in symphonic poems or thematic music.

• It compels us to move according to certain rhythm, and **dance**: waltzes, polkas, mazurkas, disco, break-dance ... and other dances different peoples of the world have developed since the beginning of history.

The urge to dance and follow music becomes more compelling when the beat is strong and clear (loud & simple) like that of thunder, quake, collapse, collision, or approaching danger, causing an instant reflexive jerk and forcing us to run, yet not too far and *with pleasure* instead of fear, because of the pleasing sounds accompanying such powerful rhythm, assuring us it's safe to stay. It's an example of the "false-alarm" thrill we enjoy after surviving a seemingly bad experience: a bite of hot pepper, a tickle/attack of a sensitive body part, a *fake* accident at the amusement park, etc.

Harms

Nobody knows better the harms of music than one who lives in noise. It's easier to notice the symptoms of music **addiction** on others, when you are not an addict yourself. You see how they lose control over their behavior, manners and consideration for others, and the time and energy they waste on music only, for the sake of that thrill, or *doping* effect they get from it. They may not even be conscious of the notes they hear nor understa
everyone else to hear, love and understand them.

It's one's fault too sometimes. Both maker and receiver of noise are r
music can make us **hypersensitive** to noise and cacophony, paying a
hear. If one doesn't practice "turning a deaf ear" to any music or con
played for or addressed to them, life becomes unbearable!

Music interrupts our thoughts even after it stops, as the brain keeps r
stored over and over, at the wrong time and place, keeping us from f
intrudes into our senses and mind without our permission, unfairly a
had not caused: it only accompanied such events, yet it keeps evokin
changes in spite of us.

This explains why we find two people with opposite tastes about the
has heard it at a different occasion, thus evoking different memories, if any. It also explains why people are usually **subjective** about their own voices. We mostly sing to please or solace ourselves, that the sounds we make become automatically connected in our mind to pleasure or solace, even when our voices are neither pleasing nor solacing, if not worse. Moreover, familiarity with one's own voice (as well as smell, looks ... mistakes) instills such illusion.

The **abstractness** of a sophisticated art such as music is a double-edged weapon. On the one hand, it carries many interpretations and stirs many emotions; on the other, it cannot define *any*, mostly pleasing those who don't look for interpretations or restrain their emotions, good or bad, just seeking escape, diversion or freedom for itself, not for something to do with. No wonder most artists enjoy being different, swimming against the current.

Music has many benefits, doing many great things to the mind, none of which is well-defined, tangible, or necessarily logical, albeit neat and harmonic. It's expressive, not informative: being specific, decisive, or neutral is not an artistic trait. Like all arts and forms of beauty, music can become addictive, transforming into something else and showing the *other* side of beauty! The harms of art are mostly shared by all arts, including music.

Living with Noise

Lessons from the Deaf

How to Listen to Music

Home

Emeritus Professor of Behavioural Neurology

+ Author Affiliations

Abstract

Music has soothed the souls of human beings for centuries and it has helped people recover from ailments since ancient times. Today, there is still a widespread interest in the relationship between music, affect and mental illness. This article is aimed at reviewing these complex relationships, starting from a wide perspective on the neurobiology of emotions, perceptions and music language to a detailed analysis of psychopathology in famous musicians.

Key Words

bipolar disorder creativity cyclothymia music

Introduction

By means of music the passions enjoy themselves.

Nietzsche F, *Beyond good and evil*, Aphorism 106

Gustav Mahler presented an obsessional neurotic personality, well known also to Freud, with an over-attention to details of staging and musical production; these behavioural symptoms associated to a not well-defined movement disorder, led to speculations on a possible Sydenham's chorea.[27] However, Mahler's mood instability and the family history for psychiatric disorders may also suggest a bipolar trait or, at least, a cyclothymic disorder. He was the second eldest of a large family, his brother Alois misrepresented himself in a grandiose way and manifested an exceptionally extravagant lifestyle, his sister Justine presented hallucinations and his brother Otto committed suicide.[19]

As far as psychotic illnesses are concerned, there may seem to be a discrepancy among studies with prevalence rates ranging between 1% and 10%.[12,13] Unfortunately, Ludwig's series poorly discriminates between affective psychoses and schizophrenia in part a reflection of the status of American psychiatry at the time he was writing. Further, although the occurrence of a psychosis in one tenth of cases may be considered high, it is important to acknowledge that many probably suffered organic psychosis due to the high rates of alcohol abuse (21.2–40%) and disorders such as syphilis. Compared to alcohol abuse, data about substance dependence or abuse are quite fragmented in these composers.

Jazz, pop and rock music

Although several authors enjoyed speculating on lives of famous classical music composers, studies on jazz, pop or rock music are still an exception to the rule. Wills reviewed biographical data of 40 jazz

Jazz, pop and rock music

Although several authors enjoyed speculating on lives of famous classical music composers, studies on jazz, pop or rock music are still an exception to the rule. Wills reviewed biographical data of 40 jazz musicians and mood disorders were probably or definitely identifiable in 28.5% and suicide attempts in 2.5%.[15] Anxiety disorders, especially obsessive-compulsive disorder, could be diagnosed in 5% of cases. Psychotic disorders were reported in 7.5%.[15] Included in that series was Bud Powell, who had numerous admissions to mental hospitals and was described as having paranoid delusions and auditory hallucinations. It is difficult to say whether he actually had schizophrenia or a schizoaffective disorder or even a bipolar disorder. The rate of illicit drug-related problems among jazz musicians is of particular interest. In Wills' sample, 52.5% had heroin addiction at some time during their lives. This rate is much higher than that reported for classical composers by Ludwig and Post, but this could be due to a number of biases in data collection that underestimated substance abuse among classical composers and the flourishing of a number of synthetic compounds of abuse in recent times.[12,13]

Rock music, heavy metal and suicide

The issue of possible relationships between adolescents' music preference and aspects of their psychological health and lifestyle has been a matter of concern. A preliminary investigation on a randomly chosen sample of high school students showed a marked association between a preference for rock/metal music and suicidal thoughts, acts of deliberate self-harm, depression, delinquency,

Rock music, heavy metal and suicide

The issue of possible relationships between adolescents' music preference and aspects of their psychological health and lifestyle has been a matter of concern. A preliminary investigation on a randomly chosen sample of high school students showed a marked association between a preference for rock/metal music and suicidal thoughts, acts of deliberate self-harm, depression, delinquency, drug taking and family dysfunction.[28] The authors suggested that the preference for rock/metal music, particularly in young girls, might be an indicator of vulnerability to suicidal thoughts and actions. These data have been replicated by a US general social survey showing a link between heavy metal fanship and suicide acceptability.[29] Subsequently, a number of authors have reported that metal/rock music preference, suicidal rock music lyrics or videos are all associated with suicide and suicidal ideation.[30–32] A classic example of such vulnerability is the so-called 'Werther effect', following the novel of Goethe, which consists in a duplication or copycat of another suicide that the person attempting suicide knows about either from local knowledge or due to accounts or depictions of the original suicide on television and in other media. The suicide of Kurt Cobain raised immediate concerns among suicidologists, and the public at large, about the potential for his death to spark copycat suicides, especially among vulnerable youth.[33,34]

Conclusions

It is concluded from the above literature and biographical

individuals in other areas, such as painting or mathematics or even philosophy, may yield different associations.

From a neurobiological perspective, the association between music and mood disruption would be in keeping with a possible involvement of the right hemisphere since patients with cyclothymia or bipolar disorders are more likely to reveal changes or pathology of the non-dominant hemisphere.[35–37] All these data suggest that the non-dominant hemisphere plays the active role in the experience (Erlebnis) of music (and poetry), and in the same way that the dominant hemisphere modulates propositional language, the non-dominant facilitates the former, not so much through providing some sort of 'creative energy' as mood accelerates, but by its very properties. The overrepresentation of poets and musicians with mood disorders, and the link of mood disorders to the non-dominant hemisphere reveal much about the latter in driving human creativity and social cohesion.

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Table 1. Famous musicians and composers with psychopathology. Adapted from References 11–15 and 38.

Classic musicians
Beethoven – Major depression?
Berg – ?
Berlioz – Bipolar spectrum
Brahms – Bipolar spectrum
Bruckner – ?
Cherubini – Bipolar spectrum
Chopin – Major depression (organic)
Duparc – Bipolar spectrum
Gluck – Bipolar spectrum
Mahler – Bipolar spectrum and obsessive compulsive behaviour (personality disorder?)
Mendelssohn – Bipolar spectrum (organic)
Mozart – Bipolar spectrum?
Mussorgsky – Psychosis (alcohol abuse)
Rachmaninoff – Dysthymia?
Rossini – Bipolar spectrum?
Schubert – Bipolar spectrum
Schumann – Bipolar disorder I
Scriabin – Bipolar spectrum
Johann Strauss– Panic disorder
Tchaikovsky – Bipolar disorder II
Wagner – Bipolar spectrum?
Wolf – Bipolar disorder II (organic)
Jazz musicians
Davis – Major depression
Desmond – Dysthymia
Bill Evans– Dysthymia
Gil Evans– Major depressive episode
Getz – Major depression
Mingus – Cyclothymia and major depression
Mulligan – Mood disorder NOS
Parker – Major depressive episode
Pepper – Mood disorder (substance abuse)
Pettiford – Cyclothymia?
Porter – ?
Rosolino – Major depressive episode?
Rock musicians
Barrett – substance abuse
Cobain – substance abuse
Morrison – substance abuse

? = controversial; NOS = not otherwise specified.

Raymond MacDonald, Gunter Kreutz, and Laura Mitchell

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The Religion of Evidence-Based Practice: Helpful or Harmful to Health and Wellbeing?

Tony Wigram
Christian Gold

DOI:10.1093/acprof:oso/9780199586974.003.0013

This chapter begins by outlining the challenges of preparing a chapter on evidence-based practice (EBP) to underpin the use of music as a therapeutic tool in treatment, in the overall frame of music, health, and wellbeing. It then reviews the terminology of EBP and evidence-based medicine, and discusses autism spectrum disorders and EBP. The chapter concludes that, based on last sixty years of the development of music therapy as a recognized and relevant intervention, there is no doubt that the honeymoon period is over, and EBP is here to stay. Despite examples of attrition in music therapy practice as health, education, and social services tighten their belts and the demand on their resources grows, there is increasing interest in the value of music for health and wellbeing, despite even less 'hard' evidence that it is effective against illness and disability.

Abstract

Music therapy has been found to be effective for children and adolescents with psychopathology, but its effectiveness in routine practice is unknown. The a study was to examine whether individual music therapy as provided in outpatient services is an effective treatment for this group of clients and to examine predictors of its effectiveness. The authors assessed symptoms, competencies, and quality of life in children and adolescents with psychopathology (*N*=136) after up to 25 weekly sessions of individual music therapy or corresponding waiting time. No significant interaction effects were identified, although qualit showed a tendency in favor of music therapy. Effect sizes were smaller than in previous experimental research. Effects on symptoms depended on the pres severity of comorbid medical conditions. The results suggest that music therapy as provided in routine practice is effective for some but not all groups of cl

Zusammenfassung

Effektivität von Musiktherapie für Kinder und Jugendliche mit psychischen Auffälligkeiten: Eine quasi- experimentelle Studie

Zwar erwies sich Musiktherapie als effektiv für Kinder und Jugendliche mit psychischen Auffälligkeiten, allerdings ist die Effektivität in der Routine- Praxi Das Ziel der Studie war zu untersuchen, ob individuelle Musiktherapie im Rahmen von ambulanten Behandlungsangeboten eine effektive Behandlung für Klientel darstellt. Ebenso sollten potentielle Prädiktoren der Effektivität untersucht werden. Die Autoren erfassten Symptome, Kompetenzen und Lebensqu Kinder und Jugendlichen mit psychischen Auffälligkeiten (N = 136) vor und nach den bis zu 25 wöchentlichen Sitzungen mit individueller Musiktherapie entsprechender Wartezeit (Warte- Kontrollgruppe). Es wurde kein signifikanter Interaktionseffekt gefunden, obwohl Lebensqualität eine Tendenz zu Gun Musiktherapie zeigte. Die Effektstärken waren kleiner als in bisheriger experimenteller Forschung. Die Effekte bezüglich der Symptome hingen von Vorha und Schwere der medizinischen Komorbiditäten ab. Die Ergebnisse legen nahe, dass Musiktherapie in der klinischen Praxis effektiv für einige, aber nicht f Klienten- Gruppen ist.

Résumé

L'effectivité de la musicothérapie pour enfants et adolescents avec une psychopathologie: une étude quasi-expérimentale

La musicothérapie a été estimée effective pour enfants et adolescents avec une psychopathologie, mais son efficience dans la pratique de routine est incon de cette étude était d'examiner si la musicothérapie individuelle en ambulatoire était un traitement effectif pour ce groupe de clients, et d'examiner des fac prédiction potentiels de son efficience. Les auteurs ont évalué les symptômes, les compétences et la qualité de vie des enfants et adolescents

questionnaire showed that the vast majority of participants appreciated music therapy, as evinced by the very low drop-out rate of 2 patients.

Discussion

Quite ordinary music therapy lessons proved to be a scientific topic without a considerable reduction in therapeutic aspects. Although the contribution of music therapy to the remission of any mental disease is difficult to define in respect to the general treatment, high acceptance probably will correlate with a therapeutic effect [6]. The aim of this study was a definition of the musical language used in a music therapeutic situation. Inevitably, the experimental procedure accepts a considerable reduction of available information, since only the real musical aspects of the music therapeutic 'conversa-

either. Nevertheless, even very amateur people feel invited to produce 'music', which means a fairly rhythmic sequence of beats and sounds. These low expert demands allow for broad application in therapies, but lowers e.g. the customary strong relation between tempo and competence as seen in true music [1, 11, 16, 18].

Nevertheless, many criteria of music are also useful in the evaluation of music therapeutic utterances. With the polarity profile originally developed for the description and definition of customary music, a high inter-rater reliability and retest stability was achieved in music therapeutic musics which together with the good differentiating abilities may allow the assumption of validity. This also means that the surprising course of musical language with remitting schizophrenics and neurotics will not be explained very easily. At U_2 neurotic-depressives played more hesitantly, timidly, unrhythmi-

logic symptoms of BPRS and musical expression resulted.

Follow-Up

With 43 patients a follow-up study over the whole course of music therapy was carried out. As is shown in table 2 an amelioration of the mental state resulted at U_2. In figure 1 the means of the U_1 and the U_2 assessments of musical productions of the subgroups are shown. Surprisingly schizophrenic patients played 'worse' at U_2, as did neurotic-depressed patients. With schizophrenics the raters experienced a significantly more amateur playing and a tendency to coarser, more boring and more superficial expression. Neurotic-depressed patients played at U_2 significantly more timidly and unrhythmically. This is in strange contrast to results with artistic music [20], in which an amelioration in psychopathology generally was accompanied by a 'better' performance of the music pieces. Although psychopathology in manic patients changed considerably are quite comparable to those shown in table 2. Despite the significant improvement in psychopathology, no important difference resulted in musical tempo for schizophrenics (U_1: MM 98.6 ± 28.9/U_2: MM 94.6 ± 26.6). endogenous-depressed patients (MM 87.9 ± 22.6/MM 81.8 ± 22.6) and neurotic depressed patients (MM 68.9 ± 14.4/MM 78.5 ± 25.2). Manic patients played considerably more slowly in the remitted state (MM 78.9 ± 19/MM 64.5 ± 9; $p < 0.05$). These results agree with the tempo study [part I, 18] using the children's song 'Hänschen klein' only in respect to schizophrenics and manics. Although the results with the two depressed groups do not comply with statistic significance, an inverse tempo relation resulted in comparison with the folk song tempo.

There was no impression that the scientific demand of the experiment very much influenced the therapeutic situation and the aims of music therapy. Taking the significant change in before/after lesson BfS data into consideration, the first lesson for each

J Child Psychol Psychiatry. 2004 Sep;45(6):1054-63.

Effects of music therapy for children and adolescents with psychopathology: a meta-analysis.

Gold C[1], Voracek M, Wigram T.

Author information

Abstract

BACKGROUND: The objectives of this review were to examine the overall efficacy of music therapy for children and adolescents with psychopathology, and to examine how the size of the effect of music therapy is influenced by the type of pathology, client's age, music therapy approach, and type of outcome.

METHOD: Eleven studies were included for analysis, which resulted in a total of 188 subjects for the meta-analysis. Effect sizes from these studies were combined, with weighting for sample size, and their distribution was examined.

RESULTS: After exclusion of an extreme positive outlying value, the analysis revealed that music therapy has a medium to large positive effect (ES =.61) on clinically relevant outcomes that was statistically highly significant ($p < .001$) and statistically homogeneous. No evidence of a publication bias was identified. Effects tended to be greater for behavioural and developmental disorders than for emotional disorders; greater for eclectic, psychodynamic, and humanistic approaches than for behavioural models; and greater for behavioural and developmental outcomes than for social skills and self-concept.

CONCLUSIONS: Implications for clinical practice and research are discussed.

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Publication Types, MeSH Terms

UNIVERSITY of York
Centre for Reviews and Dissemination

NHS
National Institute for
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Effects of music therapy for children and adolescents with psychopathology: a meta-analysis

Gold C, Voracek M, Wigram T

CRD summary

This review assessed the efficacy of music therapy for children and adolescents with psychopathology. The authors concluded that music therapy is an effective intervention for this group. This conclusion may not be reliable as it is based on an analysis combining primary studies of varying desi and uncertain reliability.

Authors' objectives

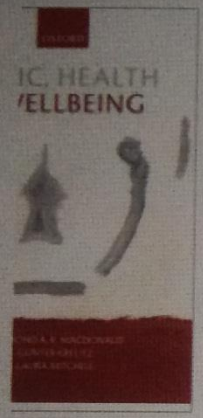
To assess the efficacy of music therapy for children and adolescents with psychopathology.

Searching

The following were searched using the reported search terms: MEDLINE (1966 to 2000), PSYNDEX (1977 to 2000), PsycINFO (1887 to 2000), the Cochrane Library (Issue 3, 2001), Music Therapy Info CD-ROMs 1 to 3 (1996 to 2001), a register of music therapy studies, and databases for ongoing and unpublished studies and relevant conference programmes. Seven music therapy journals were handsearched and the reference lists of included studies were checked for further studies. There were no language restrictions.

Study selection

Study designs of evaluations included in the review



Music, Health, and Wellbeing

Raymond MacDonald, Gunter Kreutz, and Laura Mitchell

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The Brain and Positive Biological Effects in Healthy and Clinical Populations

Stefan Koelsch

Thomas Stegemann

DOI:10.1093/acprof:oso/9780199586974.003.0029

Mounting evidence indicates that making music, dancing, and even simply listening to music activates a multitude of brain structures involved in cognitive, sensorimotor, and emotional processing. It has been hypothesized that such activation has beneficial effects on psychological and physiological health, but there is still a lack of systematic high-quality research confirming such hypotheses. To lay out the basis for such research, this chapter focuses on the neural correlates of music-evoked emotions, and their health-related autonomic, endocrinological, and immunological effects. It starts with the question as to how music actually evokes an emotion, and some thoughts on the different routes through which music might evoke emotions.

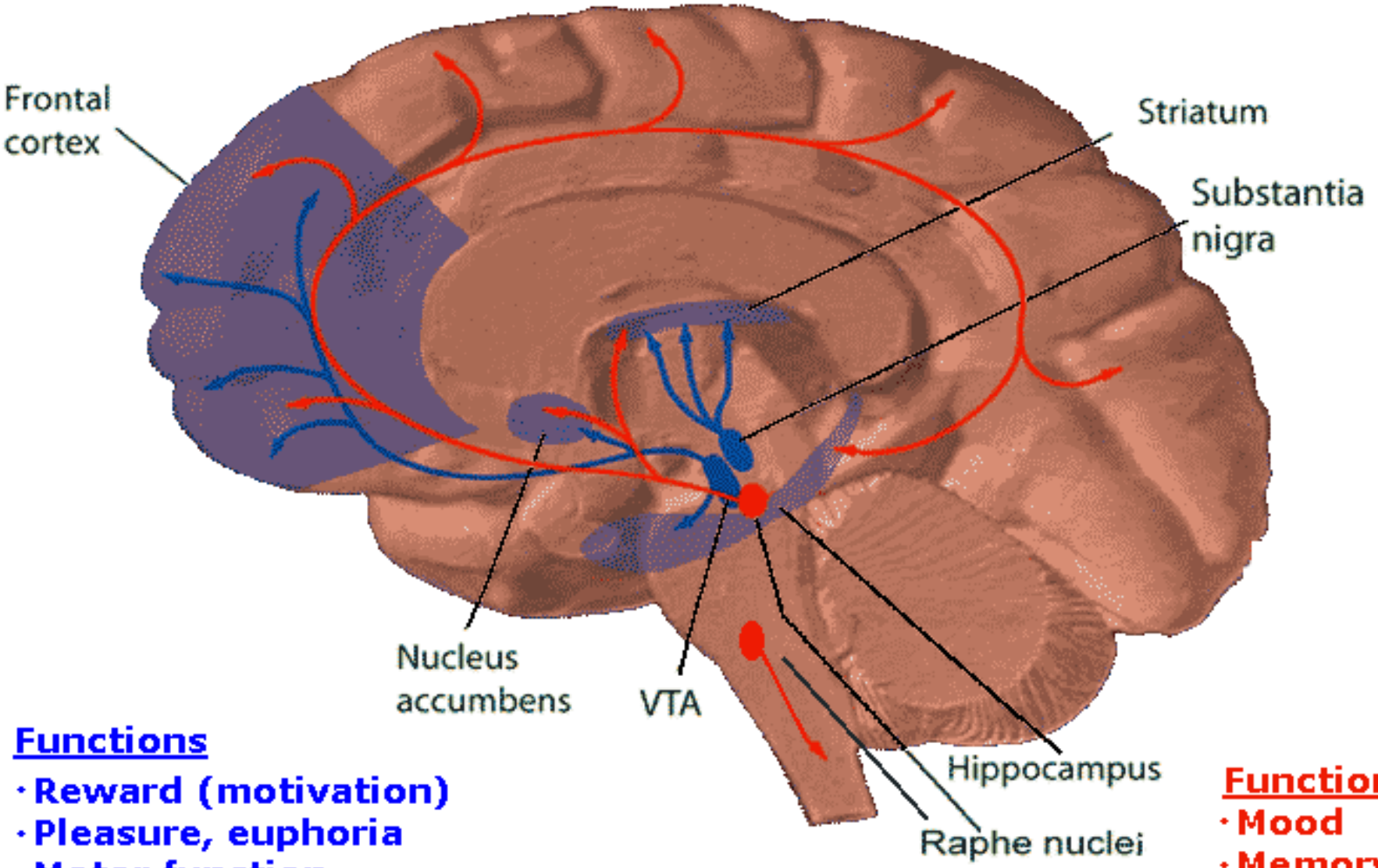
intense.[74]

Music is able to create an incredibly pleasurable experience that can be described as "chills".[75] Blood and Zatorre (2001) used PET to measure changes in cerebral blood flow while participants listened to music that they knew to give them the "chills" or any sort of intensely pleasant emotional response. They found that as these chills increase, many changes in cerebral blood flow are seen in brain regions such as the amygdala, orbitofrontal cortex, ventral striatum, midbrain, and the ventral medial prefrontal cortex. Many of these areas appear to be linked to reward, motivation, emotion, and arousal, and are also activated in other pleasurable situations.[75] Nucleus accumbens (a part of striatum) is involved in both music related emotions, as well as rhythmic timing.

When unpleasant melodies are played, the posterior cingulate cortex activates, which indicates a sense of conflict or emotional pain [14] The right hemisphere has also been found to be correlated

Dopamine Pathways

Serotonin Pathways



Functions

- Reward (motivation)
- Pleasure, euphoria
- Motor function (fine tuning)
- Compulsion
- Perseveration

Functions

- Mood
- Memory processing
- Sleep
- Cognition

Palliative Care
Psychology
Sociology

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Psychoneuroendocrine Research on Music and Health: An Overview

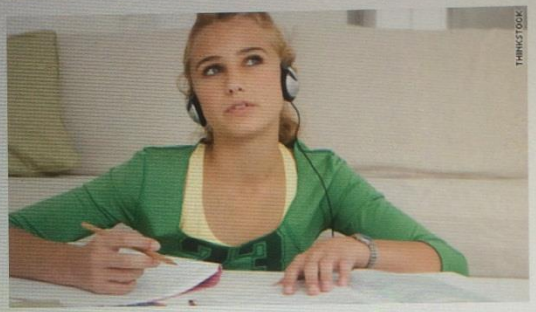
Gunter Kreutz
Cynthia Quiroga Murcia
Stephan Bongard

DOI:10.1093/acprof:oso/9780199586974.003.0030

This chapter examines the influences of musical activities such as listening, singing, or dancing on the endocrine system. The underlying assumption is that psychological processes associated with musical experiences lead to changes in the hormonal systems of brain and body. It begins with a brief introduction to general questions of psychoneuroendocrinology as well as to relevant hormonal systems, followed by an overview of empirical studies, which have begun to investigate hormonal responses to musical stimulation and musical activities. The chapter concludes with suggestions for future work that will be derived from initial evidence showing that music can be seen as a psychoactive stimulant inducing physiological effects that are sometime similar to those produced by pharmacological substances.

Keywords: musical activities, endocrine system, psychological processes, musical experience, hormonal changes, psychoneuroendocrinology

Music may harm your studying, study says



If you're studying for a test, putting on background music that you like may seem like a good idea. But if you're trying to memorize a list in order - facts, numbers, elements of the periodic table - the music may actually be working against you, a new study suggests.

Researchers at the University of Wales Institute in Cardiff, United Kingdom, looked at the ability to recall information in the presence of different sounds. They instructed 25 participants between ages 18 and 30 try to memorize, and later recall, a list of letters in order. The study authors are Nick Perham and Joanne Vizard, and the study will appear in the September 2010 issue of Applied Clinical Psychology.

Participants were tested under various listening conditions: quiet, music that they'd said they liked, music that they'd said they didn't like, a voice repeating the number three, and a voice reciting random single-digit numbers.

The study found that participants performed worst while listening to music, regardless of whether they liked that music, and to the speech of random numbers. They did the best in the quiet and while listening to the repeated "three."

Music may impair cognitive abilities in these scenarios because if you're trying to memorize things in order, you may get thrown off by the changing words and notes in your chosen song, the authors speculate.

Although other studies have found benefits to listening to music before performing a task, the authors note that this new research presents a more realistic scenario: hearing music at the same time as doing the expected task.

In the 1990s, listening to the music of Wolfgang Amadeus Mozart was thought to increase spatial abilities, but subsequent research failed to find the same effect. But other studies have found a "Schubert effect" for people who like the music of Franz Schubert, and a "Stephen King" effect for people who liked a narrated story by that author. The explanation for all of this could

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Music Instruction and Children's Intellectual Development: The Educational Context of Music Participation

Eugenia Costa-Giomi

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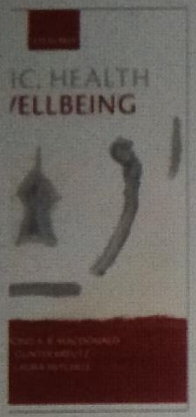
This chapter provides a historical overview of research on the intellectual benefits of music and the most popular interpretations of the research findings. After questioning such interpretations and providing alternative explanations, it describes selected experimental studies that were focused on the causal relationship between music instruction and intellectual prowess. The results of the many studies that observed children for a short period of time (i.e., up to one year), have shown convincing evidence that there are temporary cognitive benefits associated with music instruction. Such benefits include improvements in general IQ, spatial skills, and verbal tasks. Additionally, learning music produces structural and functional changes in the brain. Such changes are associated with improvements in sound processing, motor skill, and melodic and rhythmic discrimination. However, neurological investigations do not support the claim that music makes children smarted as the results have failed to show any neurological changes associated with improvements in IQ.



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Cognitive Performance After Listening to Music: A Review of the Mozart Effect

E. Glenn Schellenberg

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This chapter reviews studies that examined the effects of music listening on cognitive performance. It focuses on performance after listening to music. The arousal and mood hypothesis offers an explanation of the Mozart effect that has nothing to do with Mozart or with spatial abilities. Rather, it proposes that Mozart's music is simply one example of a stimulus that can change how people feel, which, in turn, influences how they perform on tests of cognitive abilities. In other words, the hypothesis offers a simple and sensible explanation of the effect when it is evident. There does not appear to be a specific link between music listening and cognitive abilities, and certainly not between listening to Mozart and spatial abilities. Hence, the direct benefits of listening to music on cognition are more of a fantasy than a reality. On the other hand, it is clear that music can change listeners' emotional states, which, in turn, may impact on their cognitive performance, and the fact that the link is mediated by arousal and mood does not make it less meaningful.

Personal Music Players & Hearing

Previous Question
Level 3 Questions
Next Question
Next Sub-Question

9. How can listening to music harm hearing?

The SCENIHR opinion states:

3.8. Effects of sound from PMP on hearing

Noise pollution remains the most frequent environmental hazard accounting for **hearing loss**. Over the last years an increasing exposure to noise has been noted outside workplace, during recreational/leisure activities. The latter affects not only adults, but also children and adolescents (Plontke et al. 2004). **Personal music players** were widely introduced to the market in 1980s first as cassette players, and in 1990s as CD players. In the 21st Century, **MP3** and currently i-Pods have become very popular. Most PMP users are teenagers and children. Although the equivalent levels of exposure to noise from using these devices on regular basis seem to be substantially lower than e.g. from discos or rock concerts (Serra et al. 2005) they continue to be a concern in the mainstream media. The question is whether or not loud sounds from personal music players including mobile phones with a music playing function could raise a potential risk to hearing loss? This chapter describes the changes in prevalence of hearing loss in young people that could be attributed to increasing environmental noise exposures, as well as the influence of listening to the music through PMPs on **hearing threshold shift**, either temporary or permanent.

Source & ©: SCENIHR, **Potential health risks of exposure to noise from personal music players and mobile phones including a music playing function (2008)**, Section 3.8. Effects of sound from PMP on hearing

<-- Back to Level 2

Tambs et al. 2003). It has been shown that from 5% to almost 20% of young individuals have audiometric "notches" at 4-6 kHz consistent with **noise** exposure, but this rate has remained constant over the last 20 years (Wong et al. 1990, Meyer-Bisch 1996, Niskar et al. 2001, Axelsson et al. 1981, Axelsson et al. 1994, Peng et al. 2007, Rabinowitz et al. 2006). These studies were performed in German, Australian, Swedish and American populations where the PMP were very common.

Three cohort studies reported increasing prevalence of **hearing loss** in young individuals over the last 30 years, i.e. during the period when PMP have been extensively used since the 1980s. Montgomery and Fujikawa reported in 1992 that over a decade second graders with hearing loss has increased by 2 times, and eighth graders had an increase of 4 times (Montgomery and Fujikawa, 1992). Danish children starting school in 1977, 1987 and 1997 were evaluated for hearing ability by a review of 1,605 school health records (Gissel et al. 2002). Higher prevalence of impaired hearing ability in children who started school in 1987 and 1997 compared to those who started school in 1977 was found; in addition at the end of school year group 1977 hearing had become as poor as that of year group 1987. Reduced hearing was typically at high **frequencies**, indicating to **noise**-induced hearing impairment (Gissel et al. 2002).

Boys and girls (aged 14–17 years) were examined during a four-year period. Audiological, psychosocial, and **sound** measurements were performed yearly to determine the **hearing threshold** level (HTL) of participants in the 250–16.000 **Hz** range, their participation in recreational activities, and the sound levels at discos and through personal music player use. A tendency of the mean HTL to increase in both genders during the study was observed, especially at 14.000 Hz and 16.000 Hz. Boys had a higher mean HTL than girls. The participation in musical activities increased yearly, `attendance at discos' being the favourite musical activity for both groups. In general, boys were more exposed to high sound levels than girls. In this 4-year longitudinal study it was concluded that the exposure to high sound levels during leisure activities (but not necessarily from PMP) could be a cause of permanent hearing damage among young people with "tender ears" (Biassoni et al. 2005).

Although epidemiological literature data does not support the view that there is wide-spread **hearing loss** caused by exposure to amplified music in young people under the age of 21 years, some authors stress that if the recreational pattern remains the same, there could be some risk of **noise**-induced hearing loss by the age of mid-twenties (Carter et al. 1982). Slight alterations of hearing function have been detected as possible early signs of **ear** impairment before deficits were detected with classical audiometry by **frequency** selectivity and high definition audiometry (West and Evans 1990, Meyer-Bisch 1996), otoacoustic emissions (LePage and Murray 1998) and very high frequency audiometry (Peng et al. 2007). However no follow-up data is available for these studies.

Source & ©: SCENIHR, **Potential health risks of exposure to noise from personal music players and mobile phones including a music playing function (2008)**, Section 3.8.1. Changes in prevalence of hearing loss in young people

<-- Back to Level 2

9.3 Is tinnitus more frequent among users of personal music players?

The SCENIHR opinion states:

3.8.4. Tinnitus

There are numerous reports of high levels of music-induced **tinnitus** in young people (Holgers et al. 2005, Chung et al. 2005, Axelsson et al. 2000, Davis et al. 1998, Widén and Erlandsson 2004, Rosanowski 2006). However, only three studies compared the rate of subjective complaints of hearing problems and tinnitus in PMPs users. Two studies were positive showing that these signs were more frequent in walkman users (Becher 1996, Meyer-Bisch 1996). In the study by Meyer-Bisch auditory suffering (AS) was assessed using two subjective parameters – presence of tinnitus (even temporary) and/or hearing fatigue. Auditory suffering was two times significantly more frequent in PCP users (2–7 h/week) than in matched control group. Such difference was not confirmed in those using PCP > 7 h/week, although in PCP group twice as many individuals had some complaints relative to the control group (Meyer-Bisch 1996). In the more recent investigation no correlation between the exposure to PMP and self-reported **hearing loss** and/or incidence of tinnitus was found (Williams 2005).

Source & ©: SCENIHR, **Potential health risks of exposure to noise from personal music players and mobile phones including a music playing function (2008)**, Section 3.8.4. Tinnitus

<-- Back to Level 2

9.4 How can attending concerts and night clubs affect hearing?

The SCENIHR opinion states:

3.8.5.Risk associated with pop concerts and discotheques

The data from these studies are presented here since the acoustic levels of exposure are quite similar to those that could be achieved with PMP. However, the sounds being delivered in free field are subject to many more fluctuations as exact position of the ears from the **sound** sources changes whereas for PMPs no such fluctuations of position from sound sources occur.

In 1977 and 1978 Axelsson and Lindgren published a review of previous studies (5 reports from 1967 to 1974) which indicated that on a total of 160 pop musicians examined only 5 were found to have a **hearing loss**. They also reported their own observations on 83 pop musicians exposed on average for about 9 years 18 hours a week to levels of up to 115 **dB(A)**; small hearing losses were observed in 13-30% of the subjects depending on the definition of hearing loss; the authors concluded that the risk of NIHL was very small. These authors also indicated that after two hours of pop music pop musicians exhibited TTS for levels starting at 98 dB(A) whereas normal listeners started to have TTS for a level of 92 dB(A), this difference seeming only partly explainable by the original slight elevation of hearing of pop musicians (Axelsson and Lindgren 1978b). Irion (1981) described one case of acute bilateral hearing loss while attending a pop concert followed by almost complete recovery within a few days, this exceptional **vulnerability** was attributed to **genetic** predisposition.

Two epidemiologic surveys were reported by Babisch and Ising (1989), one on 204 the other on 3133 young people, showed that those with some **hearing loss** indicated on average more time spent in discotheques. Such a relation was later confirmed by Dieroff et al. in 1991, within a group of 181 persons (Dieroff et al. 1991). Those who went more than three times a month to discos showed on average a slightly greater loss at very high **frequencies**. In 1992 Drake-Lee measured TTS in a group of four pop musicians after a concert in which levels could be up to 135 **dB(A)**, with less TTS for those who wore **ear** defenders. In 1996 Liebel et al. observed TTS of up to 10 **dB** on average after 2 hours of attendance to a discotheque for two hours at an average level of 105 dB(A). Meyer-Bisch (1996) states that although 211 discotheques patrons did not show audiometric damage, people having gone to rock concerts at least twice a month exhibited some hearing losses. Metternich and Brusis (1999) examined 24 patients consulting after musical acoustic trauma, in two thirds of the patients the hearing loss occurred after a one-time exposure to a pop concert, in the other third the loss occurred after repeated attendances to discotheques or parties, five patients reported **tinnitus**. In a study on 46 employees in discotheques with at least 89 dB(A) average acoustic level, Lee (1999) observed a higher prevalence of hearing loss and tinnitus as compared to a control group. Sadhra et al. (2002) report on 14 students working in entertainment venues exposed to more than 90 dB(A) and up to peak levels of 124 dB(A), small but significant TTS was

با تشکر و آرزوی سلامتی برای شما