CONSIDERATIONS REGARDING THE INTROSPECTIVE AND VERBALIZATION ABILITIES OF THE MUSICAL MESSAGE FOR CHILDREN, BASED ON A STUDY CONDUCTED WITH THE “MUSIC DIAGNOSTIC INFANT”

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ABSTRACT

The “Music diagnostic infant” test was applied for the imaginative and verbalization capabilities of students aged 8-45 years. The method consisted of listening to the 6 songs and scoring the answers of the subjects on a questionnaire on two of its sections. On a group of schoolchildren (8-15 years, 26 girls and 24 boys) a preliminary investigation was undertaken regarding their introspective, imaginative ability and the verbalization of the message ability conveyed by listening to 6 short songs (lasting approximately 2 minutes) from the symphonic and chamber repertoire (Delius, Wagner, Haydn, Saint Saens, Delibes). The results of the test show: the availability of symphonic music (selected melodic fragment); a satisfactory adequacy of the responses to the nature of music; the presence of abstract isomorphism even for school age children. The projective features of the children – subjects could be revealed only partially, during the use of the passive form of the music test.

Keywords: music diagnostic infant, function of music, psychology

INTRODUCTION

Music is a complex of audio stimulus organized using specific rules (resulting the musical structure), with overall positive effects on the human body. Music is one of the most important parts of spiritual food [1] and acts predominantly on the psychic (emotional resonance) as well as on the whole body by the psychosomatic relay. The music exercises a number of functions at different level [2].

All the functions of music presented above are derived from its fundamental function, the aesthetic one, with its educational and entertainment role. The analysis of the concepts of music therapy and music diagnostic must start from some axioms.

They are usually considered the pleasure and the pleasant effects produced when listening to music. Also, the intensity of the psychological effect is directly related to the pleasure level induced by listening to music [3, 4]. But the joy of the audience does not exclude the negative character of emotions worn or induced by music: anxiety, sadness, as it is the case for doina, requiems or other types of music.

It is undisputed the fact that the intensity of the psychological effects of music depends on a number of factors such as the musical preferences and the actual mood of the listener. In the music therapy there are described two main categories: active music therapy, an optional step derived from the therapeutic process [5] and receptive music therapy, a special version, preferred to be conducted initially in groups for interaction and subsequent individual.

The music therapy represents the systematic use of music and musical elements
within an interpersonal relationship with a therapist experienced in music - in order to achieve optimal health outcomes [6]. The musical interventions include passive listening (receptive music therapy) of a previously recorded music and / or active music making (active music therapy) [7].

Both types of interventions were applied to different types of subjects or patients of all ages. Music is considered a "universal language" that can be seen relatively early in development [8], with a non-invasive nature, pleasant, flexible and dynamic, it becomes advisable to treat various medical problems and development problems in children and teenagers [9-12].

Table 1. The functions of music at different levels [1]

<table>
<thead>
<tr>
<th>Level</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>Cathartic (relaxation) Energetic (boosting)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Stimulating the imagination The development of thinking (spatial, mathematical thinking)</td>
</tr>
<tr>
<td>Physiological</td>
<td>Neuroendocrine – immunological activation Somatic-visceral changes</td>
</tr>
<tr>
<td>Social</td>
<td>Communication Group cohesion</td>
</tr>
<tr>
<td>Pedagogical</td>
<td>The development of the memory The promotion of learning</td>
</tr>
<tr>
<td>Therapeutic</td>
<td>Anti-distress effects by the effects of the eustress in mental and neurologic diseases, surgical and psychosomatic diseases</td>
</tr>
</tbody>
</table>

Several studies have examined the use of music in the context of pediatric medical care [13-15]. Some focused exclusively on the effectiveness of music in reducing the procedural pain. Some studies [12, 15] involving children and teenagers patients suffering invasive and non-invasive medical procedures concluded that medical interventions carried out when in the background there was played music reduced the pain, anxiety and suffering. These findings are consistent with the meta-analyzes by examining the effects of music on pain, anxiety, and other stress indicators in hospitalized adults [16-18].

According to the American Music Therapy Association, music-therapists can help the following types of children and adolescents:
- suffering from cu development deficiencies;
- suffering from behavioral disorders;
- suffering from emotional problems;
- suffering from physical disabilities;
- school children;
- suffering from speech deficiencies;
- suffering from autism;
- suffering from impaired vision and hearing;
- suffering from neurological disabilities;
- suffering from addiction problems;
- physically abused or sexually abused.

Most of the studies [19] on the effectiveness of music therapy for the treatment of various disorders of children and teenagers include four main categories of beneficiaries:
- Those with learning disorders, developmental and behavioral disorders including autistic children, children with attention deficit, hyperactivity disorder, learning disabilities and developmental retardation.
- Those with stressful life events, includes the children experiencing losses or traumas such as the loss of a close relative, divorce or refugee status.
- A third category – those suffering from "emotional disorders and related psychopathology" – including children diagnosed with depression or other psychiatric conditions.
- The last category "acute physical illness and / or chronic illness" includes children with somatic conditions or diseases.

Since this paper is an attempt to broaden the concept of music diagnostic use in children, we begin by presenting the concept developed by Iamandescu in 2004 and further developed in a doctoral thesis by Ioana Cioca (2010) [20].

The music diagnostic concept

The functions of music described above are derived from the action of music at different levels: emotional, cognitive, physiological, social, educational and therapeutic. The diagnostic contributions of music therapy induced by complex psychological processes determined by the interaction between the music and the individual should not be neglected. The music diagnostic represents a concept based on the isomorphism between music and psychic, the parallel between the structural items of that music (musical message) and psychological processes (especially the cognitive and emotional ones). The music diagnostic becomes an assistive tool
of the psycho-diagnosis, revealed by the clinical psychologist but it is in the same time a very useful prelude of the individualized music therapy for both healthy subjects and patients with psychiatric or psychosomatic pathology.

The music diagnostic (MD) is a concept based on the isomorphism between music and psychic, namely the parallel between the two items: structural items (melody, rhythm, tempo, harmony, loudness, etc.) of the music that is heard (musical message) and its psychological effects (especially the cognitive and emotional ones) [21].

MD can be achieved by interpreting the patient's mental status determined by listening to music. This can be done by obtaining a number of answers after listening to music (one or more songs, ideally the same set) and analyzing their content, with observing the nonverbal behavior of subjects. [5].

The musical message can be induced by a series of auditory stimuli interpreted by each subject in a strictly individual manner, the responses representing the final product of the insight, coupled with the projection of certain thoughts and feelings. [21].

Our objective refers to the analysis of data obtained by using a music test (MT) as well as the answers from the questionnaires and the behavior during the test and also the answers to additional questions.

Also we made a comparison between the data from the psychological tests and the answers given during the music test. There are many models of receptive music therapy based on the analysis of the verbalization of thoughts and feelings induced by the music to the listener [1, 5, 22, 23].

Finally, we can corroborate the responses of the subjects to the music test with their musical preferences. In order to achieve these goals, first we use a questionnaire regarding the musical preferences and ways of listening to music, a personality test or an emotional test (eg, alexithymia).

We will also do a training of the subjects. The selection of the songs is made in accordance with the personality type [24].

The clinical psychology and music

The music stimulates a number of psychological processes (especially emotional ones) and represents a therapeutic agent for both the psychic and for the soma. The use of music for therapeutic purposes can be exclusive or can be added to other types of therapies (physiotherapy, Schultz training, dance therapy, etc.). Music plays an important role in fostering the communication between the doctor and patient [5, 25-27].

There must not be neglected the diagnostic contributions of music therapy due to some complex psychological processes induced by the interaction between music and subject. We should consider the neurophysiological background of mental processes and predominance of the emotional impact of music, but also the "activation" of the intellect (depending on the type of music and the musical preferences of the subject).

On the long-term, the music therapy has a sustainable formative effect on the music at the beginning by expressing the content of the musical message, then, by the development of creativity and the refining of the musical taste. [1]

Interaction ways between music and psychic

The first obvious effect of music on the psychic is the evocation or the suggestion of earlier representations. Also, listening to music stimulates the imagination, creating new images [21]. So the music has effects on key psychological processes: cognitive, affective, and on behavior.

The music diagnostic is similar to a projective test by the projective mechanisms involved. This can be analogous to the Rorschach test by the ambiguity of the stimuli (musical versus visual) [22]. The theme of the music can facilitate the projection even of the biography of the listener as long as the stimulus is complex (tonality, harmony) [1, 21].

Ways of interaction between music and soma

When listening to music there is a veritable somatization of the musical message that has a high diagnostic relevance. The effects of music on the human body may be indirect (via the psychosomatic relay), dependent on the nature of the musical message or direct (through sound vibrations). Music can treat the auditory system (otitis, hearing loss) or can be applied directly on the affected areas: abdomen, skin, musculoskeletal system (musical acupuncture).
The interaction between music and the human body is heavily illustrated by a number of important changes: changes in the muscle tone (relaxation / tension), vasomotor changes (hot / cold), significant changes in neurovegetative (piloerection), endocrine and immune changes: catecholamines, cortisol, the growth hormone, dopamine, serotonin, endorphins and other stress hormones and visceral changes [28, 29].

In conclusion, the responses of healthy or ill subjects represent the expression of the effects of music on the following skills of the subject (see Table II).

Therefore, the type of music-psyche isomorphism (abstract, concrete, mixed) may indicate the thinking ability of the individual. The poor capacity of the subjects to verbalize thoughts and feelings could be an important index of possible alexithymia personality and could suggest a way to improve them, repeating the music therapy sessions. [1]

The music diagnostic can be developed as a Rorschach test - following the ideas of Verdeaux Pailles [30] – by creating a code for the classification and interpretation of various meanings / suggestions of answers given by the listeners. The music diagnostic appears as an adjuvant tool psycho-diagnosis revealed by the clinical psychologist, but may also be a prelude useful of an individualized music therapy for both healthy subjects and in patients with psychiatric or psychosomatic pathology.

The music diagnostic version applied to children, the infant music diagnostic

In the case of children, the music therapy benefits from his availability for communication and eagerness to play as well as the emotional eagerness, whose blocking due to various causes can be pierced with music. It can successfully treat tics, emotional inhibitions, sensory and motor handicaps and autism. The availability for games is a prerequisite for acquiring instrumental musical performance and improvisation techniques, this active music therapy including the use of dance – with a cathartic effect and thinking stimulation and creativity effect. A very useful and simple to apply therapy is the one given by Dr. Wolfgang Meyberg “Trommeln in Therapie und Selbsterfahrung” handling drums, able to inspire – in the case of a child – the pleasure of the game with the release of aggression and tension.

Table II. The psyche levels on which the music acts [21]

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>Cognitive level</td>
<td>-The evocation some previous images, ideas, moods;</td>
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<tr>
<td></td>
<td>-The imagining (creating under the influence of music) certain objects,</td>
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<tr>
<td></td>
<td>isolated or in interaction feelings, real scenarios (for example, Beethoven's</td>
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<td></td>
<td>Pastoral Symphony, &quot;Scene at the brook&quot;);</td>
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<td></td>
<td>-Also the suggestion of some abstract concepts isolated or interconnected</td>
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<td></td>
<td>(eg &quot;Flame of Love prelude to the first act of the opera Tristan and Isolde&quot;).</td>
</tr>
<tr>
<td>Emotional level</td>
<td>-The induction of harmonious or discordant present emotional states;</td>
</tr>
<tr>
<td></td>
<td>-The revival of certain feelings or complex emotions that occurred earlier</td>
</tr>
<tr>
<td></td>
<td>(eg the reawakening of certain complex feelings or emotions encountered</td>
</tr>
<tr>
<td></td>
<td>previously) (eg, Faure, &quot;After a Dream&quot;).</td>
</tr>
<tr>
<td>Behavioral level</td>
<td>-Repeating insights and projections of certain concepts, events and personal</td>
</tr>
<tr>
<td></td>
<td>attitudes based on the interpretation of the content of the music (eg the</td>
</tr>
<tr>
<td></td>
<td>festive atmosphere before the marriage ceremony of Lohengrin and Elsa, the</td>
</tr>
<tr>
<td></td>
<td>prelude to the third act of the opera Lohengrin, Wagner).</td>
</tr>
<tr>
<td>Somatic level</td>
<td>-The degree of the influence on certain organs through the somatic correlates</td>
</tr>
<tr>
<td></td>
<td>of the emotions induced when listening to music.</td>
</tr>
<tr>
<td>Communicational</td>
<td>-The ability to verbalize thoughts and feelings of the subjects (ease /</td>
</tr>
<tr>
<td>level</td>
<td>difficulty of putting into words the content of the musical message</td>
</tr>
<tr>
<td></td>
<td>(cognitive, emotional) is one of the major goals of music therapy, especially</td>
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<td>for alexithymic subjects.</td>
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METHOD

On a group of schoolchildren (8-15 years, 26 girls and 24 boys) a preliminary investigation was undertaken regarding their introspective, imaginative ability and the verbalization of the message ability conveyed by listening to 6 short songs (lasting approximately 2 minutes) from the symphonic and chamber repertoire (Delius, Wagner, Haydn, Saint Saens, Delibes).
Considerations regarding the introspective and verbalization abilities of the musical message for children, based on a study conducted with the "Music diagnostic infant"

The "Music diagnostic infant" test was applied for the imaginative and verbalization capabilities of students aged 8-45 years. The method consisted of listening to the 6 songs and scoring the answers of the subjects on a questionnaire on two of its sections:
- providing grades (1 to 10) for the pleasure produced by each song;
- the description (possibly finding an appropriate title) of the images produced or evoked by listening to music.

There were coded:
- the grades awarded (the affective adherence to the music shown)
- the concrete or abstract nature of the responses (concrete / abstract isomorphism)
- their suitability to the nature of music (implausibility / suitability)
- the quality of the vocabulary.
- the intellectual / cultural level reflected in the responses
- the originality / lack of originality of the answers.

The ability to verbalize (AV) was derived from the responses 2, 3 and 4 and the other encoding parameters were used as evidence to establish statistical correlations subsequently relevant for possible factors influencing the AV.

The quality of the answers: intellectual level, vocabulary, general knowledge.

RESULTS

The appreciation of the songs (average of 8.80) was very friendly even though for the vast majority the symphonic / chamber genre was new.

The quality level of the answers was adequate to their age, with two exceptions, the best in subjects aged 11-15 years.

The adequacy of the responses was surprisingly good (two children, 8 and 12 years old, gave good answers to all the songs)

The practical isomorphism type was predominant compared to the abstract or mixed one, and it represented the only significant difference to the adult responses to the same test.

DISCUSSIONS

The imagination of children finds in recent decades due to the contact with television and books with appealing graphic design – many and varied sources enabling them associations between various ideas, including the action of structured sound stimuli, as it is the case of music.

The answers given by the children that participated in this study only allow a number of preliminary findings that need to be confirmed – in a larger number of cases and on better differentiated age levels – in a further study.

First, the methodology of the study should take into account the particularities of the musical experience of children in their first years of life: their contact with music is best made by two favoring fundamental qualities: the melody and the rhythm. If the symphony songs that they listen to during the music test possess these two qualities, harmonic combinations that "dress" the listened songs enhances the pleasure produced by that music [31] and create the basis for the development of the symphonic genre in those children.

Secondly, the imaginative potential of children exposed to the music test depends heavily on their knowledge and their associative capabilities and all these three elements are involved in the accomplishing of the psychomusical isomorphism, with a major speech in the cognitive plan but also a poignant echo within the affective field.

Finally, the verbalizing of the content of the musical message is based not only on the insight ability – present even in childhood and confirmed by the responses of the tested children – but also on their available vocabulary.

All these preliminary considerations are required to be considered in future studies in which another variable, the level of intelligence is required to be introduced in the psychomusical isomorphism equation.

CONCLUSIONS

The application of the music test to schoolchildren appears – "viable"

The results of the test show:
- the availability of symphonic music (selected melodic fragments)
- a satisfactory adequacy of the responses to the nature of music
- the presence of abstract isomorphism even for school age children.
The projective features of the children – subjects could be revealed only partially, during the use of the passive form of the music test.

REFERENCES