



## STAGES OF SCIENTIFIC COMPREHENSION BEGINNING AND DEVELOPMENT OF THE VERSATILE INFLUENTIAL MECHANISMS OF THE MUSIC ART TO A HUMAN

**Yuliya Anatoliivna Bondarenko**

Ph.D. (Special Education), Associate Professor,  
National Pedagogical Dragomanov University, Kyiv, Ukraine  
State Pedagogical University, Sumy, Ukraine

### **Abstract:**

In the article, the author made an analysis of the views of ancient poets, philosophers and scientists, physicians, educators, musicologists from different eras on the problem of medical and educational impact of music on a person. It is shown that in prehistoric times the musical art was associated with myths, magic and religious cult rituals. Based on the views of the ancient philosophers and thinkers there were various theories and concepts of the impact of music on the body and the human psyche. Scientific understanding of the mechanisms scientists' impact of music on the human body began in the early twentieth century. The article focuses on the analysis of current uses of music in therapeutic and remedial work with children of different categories, including psycho-physiological, psychotherapeutic, psychological and socio-pedagogical.

The materials is structured chronologically, which allowed time interval to track the use of music in medical and remedial work and highlight historical periods and stages in the development of different views on the issue under study: pre-scientific period that includes the ripening stage ideas therapeutic effects of music and scientific propaedeutic phase formation thought; research period comprising theoretical principles forming the physiological effects of music on the human body and the stage of formation and development of scientific understanding of the mechanisms of diversification's effects of music on people.

**Keywords:** musical arts, medical and pedagogical influence the history of children with psychophysical development

## **Introduction**

The substantial source of enriching the content of correctional pedagogics in the work with the children with psychophysical development deflection is considered to be the study of scientific and creative heritage of philosophers, poets, scientists, teachers, musicologists of different historic periods, who were investigating the problem of the music art influence on an organism and mind in general.

Topicality of the study of medical - pedagogical influence of the music art is presupposed by modern changes in the development of a special education where the priority assignments are improving the content of correctional - educational work with the children with psychological deflection, understanding the positive tendencies and implementing them into practice of nowadays. Music plays a significant role in correctional – developing and treatment - recovery work with disabled children. Correctional – pedagogical and treatment – recovery abilities of the music art foresee working out the means of preventing and correcting deflections in mental state, mental and physical development of a disabled child.

A comprehensive and multifunctional series of effects on a person, of art and music in particular, were highlighted in the scientific works of modern researchers such as R. Vainola, V. Havryliuk, A. Holyk, H. Hryshenko, I. Korschakova, I. Levchenko, O. Medvedeva, S. Naumenko, etc. And the number of scientists L. Brozelo, T. Varionova, H. Volkova, N. Vlasova, I. Hudym, N. Zbruieva, M. Zemtsova, A. Kyshtymova, V. Kruchynin, L. Kunenko, I. Muratov, N. Ostapenko, Z. Punina and others. And also there were highlighted wide possibilities of music usage in the correctional work with the children with psychological development deflection and there were mentioned some historic information as for the usage of means of music art in treatment – recovery work.

Analysis of the scientific and methodological sources revealed not enough development and lack of understanding of the problem of the history appearance of music art with the healing and therapeutic purposes in correctional and educational work with children with disturbances of mental and physical development. The depth of researched historical range that covers the period from antiquity to modern times requires highlighting the historical stages in the development of different views as for the given problem.

## **Formation of the objective and methodological basis of theoretical research**

Therefore, taking into consideration everything mentioned above, we performed the analysis of different views on the subject of medical-pedagogical influence of music art in different age periods of social development. Research objectives involved structuring of historical stages of the development of different views on the problem studying; highlighting the views of thinkers, poets, scientists of ancient and modern times concerning health and educational impact of music art on the human psyche and the body in general; allocation of current uses of music in the process of work with children with disturbances in mental and physical development.

Methodological basis of the research work consists of works from music history (I. Hivental, K. Zenkin, L. Krasynska, B. Levik; N. Herasymova-Persydska, O. Zinkevych, L. Kyianovska, M. Cherkashyna-Hubarenko, K. Shamaieva, etc.), the history of pedagogics (S. Biletska, I. Kovalenko, V. Kravets, M. Levkivskyi, V. Rotenberg, L. Stoliarenko, O. Sukhomlynskyi, M. Iarmachenko, etc.), the history of music education (I. Aliieva, O. Apraksina, L. Archazhnikova, L. Dmitriieva, O. Lobova, H. Padalka, O. Rostovskyi, L. Khliebnikova, O. Scholokova, etc.). Within the structuring of different views on the problem of medical and educational impact of music art we take into account the general historical approach to periodization (antiquity, the Middle Ages, the Renaissance, the New Time, etc.), art (baroque, classicism, romanticism, impressionism, avant-garde), general pedagogical (pre-scientific, the appearance of theoretical concepts Education within philosophy, the development of educational science).

Retrospective analysis of foreign opinion as for the medical-pedagogical impact of music art focuses on structuring "small" historical stages connected with the development of specific approaches and views, in the context of this research takes form.

1. Pre-scientific period (from ancient times to the middle of XVII century.).
  - 1.1. Stage of maturing ideas of therapeutic effects of music (ancient times).
  - 1.2. Propaedeutic stage of scientific thought formation – appearance of theoretical concepts of ancient philosophers about "cleaning" by means of music (from ancient times to the middle of XVII century.).
2. Research period (from late XVII. to the present time).
  - 2.1. Stage of forming theoretical foundations of physiological impact of music on the human body (from the end XVII - the beginning of the twentieth century).

2.2. Stage of formation and development of scientific understanding of the mechanisms of diversification effects of music on a person (from the beginning of the twentieth century to the present time).

**Pre-scientific period - maturation stage of ideas with the therapeutic effects of music on a person**

The first - the pre-scientific stage covers the period from ancient times when there existed ancient civilizations to the middle of the seventeenth century. It is believed that the music originated approximately 40,000 years ago when people began to imitate the sounds of nature and distinguish them from the language. It was the very period where there began maturing ideas about the therapeutic effects of music on the human body (Lobova, 2010).

Analysis of historical works (H. Boffi, M. Dandamaiev S. Kramer, T. Savelieva, F. Hoffman) showed that in the ancient world there was no music as art, but as a "helper" in their daily lives. So in ancient works and documents music featured as a magic tool expulsion of evil spirits that are essentially taking psychotherapeutic treatment of the disease (Al-Balah, 2009). V. Maurer pointed out that primitive society used music in two ways: as a hymn that was a means of cohesion and unity of the tribe, and a melody magician-doctor who cast evil spirits and set body to health (Kartava, 2014).

Information about the magical effect of music can be found in the culture of different cultures in the ancient world. For example, in Egypt, priests treated diseases by means of sounds of different heights (Al-Balah, 2009). China music was used to reduce stress, a kind of a relaxation technique (Taher, 2012). During the Coptic culture the ill with epilepsy were treated with singing psalms (Al-Balah, 2009). In ancient Iraq in the era of the Umayyad and Abbasid music was used for the treatment of patients, as well as pain relief and restoration of mind and physical strength (Taher, 2012).

The therapeutic effect of music is mentioned in ancient mythology, where the music is also regarded as something of a magical character. In the myth of Orpheus there is mentioned that the famous hero improved the luck of people by his singing, captured wild animals and birds. In the Homeric epics ("Odyssey") there is a description of how the music and the singing stopped Odysseus's wound bleeding. The ancient Greek hero Achilles suppressed the attacks his rage by singing and playing the lyre. Apollo, the patron of singers and musicians, during the Peloponnesian War stopped plague by playing the instrument (Lobova, 2010).

In ancient writings, we can find plenty of evidence of healing music, treatment by its sounds. A great ancient doctor Avicenna called a melody "unmedical" means of treatment alongside with a diet, smells and laughter. In the "Canon of Medicine", he suggested that people suffering from melancholy, should listen to music and singing of birds. Boethius, in his treatise "Manual to Music," told how the musicians Terpander and Arion deprived by singing the dwellers of Lesbos and Ionians from serious illnesses. The physician Asclepiades suppressed divisions by music sounds, as well as playing the trumpet helped to restore the hearing to the deaf (Matsyshina, 1998).

**Pre-scientific period - propaedeutic stage of a scientific opinion formation as for healing - pedagogical impact of music art on a person+**

Propaedeutic stage of the scientific opinion formation is characterized by the appearance of theoretical concepts of ancient philosophers about "cleansing" by music. Ancient Greek philosophers and thinkers spectated music not only as a means of influencing the moral world of a person, correcting and education his character, but also as a means of making a certain psychological disposition of a person (theory ethos) and mental purification which a person feels after dealing with art (theory of catharsis).

According to the theory ethos (the theory of the significant impact of music on the human being) music creates different conditions of a soul. According to Plato (427-347 BC) the power and strength of the state depends on the kind of music it plays, in which and rhythms the music sounds. In its turn, it has an ability to make people's souls according to themselves. In the dialogue "The State" Plato mentions that dealing music should be the basis of the state educational system (Kalmykova, 2001). The concept of catharsis used in the philosophy of Pythagoras, Plato, Aristotle and others who paid attention to the psychological "cleansing" of a person from communicating with music and other kinds of art. *Pythagoras* (428-348 BC) recommended music as a cure for the body and soul and found that music can improve and develop human intelligence (Matsyshina, 1998). He noted that music and good food is an ideal means to maintain a healthy mind and body. The Pythagoreans developed the theory of purification of the soul from harmful passions (anger, lust, fear, jealousy and so on) by implementing specially selected music. (Medvedeva, E., Komissarova, L., Shashkina, G., Sergeeva O., 2002).

The ideas of Pythagoras and Plato got mostly developed in the writings of *Aristotle* (384-322 BC), the developer of doctrine of mimesis, which reveals the idea of person's inner world and ways of influencing on it through art. In this theory, concept

of catharsis was developed, according to which the human soul reliefs from painful conditions, providing further stable moral and mental health. Aristotle considered music as a way of cleansing the soul from passion. He thoroughly described the music keys that lead to a change of mentality (Tugeeva, 2011).

Based on the ancient theory of musical ethos and with the development of rationalist philosophy and psychology there appeared the theory of the emotions that studied the effects of different rhythms, melodies and harmonies on the emotional condition of a person. The theoretical grounding of doctrine was founded by a French rationalist philosophy Rene Descartes. Later, in the Middle Ages, influence catharsis of music associated with the theory of the emotions and the theory of psychoanalysis by Sigmund Freud, Carl Jung.

### **Scientific period - the stage of formation of theoretical principles of music physiological effects on a human body**

The second *scientific stage* of views evolution on the problem of medical and educational impact of music art is appointed by forming of theoretical foundations of music physiological effects on a human body, and then the setting up and development of scientific understanding of the mechanisms of music diverse effects on people, covering the time period from the end of the XVII century to the present time.

The stage theoretical foundations forming of music physiological effects on a human body is characterized by the fact that in XVII-XVIII centuries there appeared the doctrine of the use of music in medical purposes, and it was called «Jatromusica». Within this trend there studied physiological reactions that occurred in a body during listening to music.

At the beginning of the XIX century French psychiatrist Jean Etienne Dominique Eskirol began using music in psychiatric institutions. At the end of the XIX century I. Tarkhanov proved by his researches that the melodies which bring people joy, influence positively human body, slow down the heart rate, increase the strength of heart contractions, facilitate vasodilatation, normalize blood pressure, stimulate digestion, increase appetite. Pleasant emotions, caused by music, raise the tone of the cerebral cortex, improve metabolism, stimulate respiration, increase attention, tone the central nervous system (Matsyshina, 1998).

**Scientific period - the stage of formation and development of scientific understanding of the mechanisms of diverse effects of music on a person**

The stage of formation and development of the mechanisms of diverse effects of music on a person began in the early XX century. In the second half, all around the world music was used as an independent therapy - music therapy. The above mentioned trends and theories formed the basis for modern uses of music in medical and correctional work with children of different categories: physiological, psychological, psychotherapeutic, and social-educational.

*Physiological* direction associated with the positive influence of music on various body functions. V. Bekhterev believed that using rhythm can be set in the balance of the human nervous system: to slow down too excited temperament and speed up slow ones, settle incorrect and unnecessary movements (Matsyshina, 1998). In the future, special studies by S. Korsakov, I. Dohel, I. Sechenov, I. Tarkhanov, H. Shypulina and others confirmed the opinion about the positive influence of music on various systems of the human body: cardiovascular, motor, respiratory, central nervous ones. Research performed by doctors and psychologists have shown that the impact of music on the human body is quite wide. I. Hryniova noted that melodic music provides sedative, rhythmic and energetic music at a moderate pace and dynamics has a tone effect and is used in renewable vascular therapy, including the cerebral circulation disturbances. The positive impact of music on the central nervous system was noticed by psychiatrists A. Groisman, V. Raykov. Normalization of the cardiovascular system in the perception of the music that was performed on the clarinet and the violin was studied by S. Mamulova. The therapeutic effect of the art singing, vokaltherapy, its usage with therapeutic aim in practice was shown by Shushardzhanom C. (Medvedeva, E., Komissarova, L., Shashkina, G., Sergeeva O., 2002).

Positive scientific conclusions gradually formed the basis of scientific evidence as for the possibility of music usage in correctional work with both adults and children with developmental problems (V. Bekhterev, P. Anokhin, Yahnina A. etc.).

*Psychotherapeutic direction* of music usage foresees its therapeutic effect on the psyche and, through the psyche, on the human body and deprived from various emotional, personal, social and other problems. At present stage music therapy is considered to be one means of medicine and prevention of a wide range of diseases. An important role in the development of music therapy was played by a philosopher Plato (347-427 BC), who believed that music leads the hearts of children to balance and, along with gymnastics, is a means of recovery (Kalmykova, 2001).

*Psychological direction* of the music usage assumes its impact on the variety of structural components of the human psyche. In the early XX century there appeared a significant amount of work on music psychology by L. Vyhotsky and B. Teplova. The psychological aspect of the impact of music on a child with problems in the development of associated first of all with the correction of cognitive, emotional and personal sphere of children, where the important place is occupied by the expansion of social experience, communication, ability to communicate adequately, engage in common activities with peers and adults. The impact of music on the development and correction of psychological processes, the formation of their arbitrariness, commitment demonstrated by the studies of Milovskoyi S., I. Ievtushenko, E. Medvedev and others (Medvedeva, E., Komissarova, L., Shashkina, G., Sergeeva O., 2002). In the process of practice of psycho correctional work in the process of having an impact on emotional - personal sphere, music plays relaxation, regulatory, catharsis functions.

*Social-pedagogical direction* of the music impact is performed in two ways: by educating the aesthetic ability to perceive the reality directly in life, and through music works and by means of activities related to the musical arts. Even in ancient Greece, musical education was considered an inevitable part of education, because music helps personal development of the child (Taher, 2012).

Social - pedagogical music impact on the child is associated with giving him unlimited opportunities for self-expression and self-realization both in the process of creativity, and in the knowledge gaining and approval of his own "I". Creating by a child products of music activity makes easy the process of communication with adults and peers in different age stages. Interest for the results of work, the perception of the products artistic activity improve self-esteem of the child with psychophysical development disturbances, and his self-perception. Music also forms an idea of the child's environment, expands the musical world (Medvedeva, E., Komissarova, L., Shashkina, G., Sergeeva O., 2002).

## **Conclusion**

Thus, analysis of mythological literature, physiological, musicological, psychological - educational research works on considering the problem of the study showed considerable interest of ancient poets and philosophers, thinkers, and later psychologists, doctors, psychologists, teachers of different historical times to the problem of the impact of music on the human body. Modern uses of music in the scope of work with children with disturbances of mental and physical development are based



on previous experimental studies that demonstrate the powerful effect of music on all mental and physiological processes in the body of a person.

So, a retrospective analysis of foreign thought as for the impact of music on the person proves that the idea of medical - pedagogical impact of music was originated in ancient times. Since that time there have been different approaches to understanding the influence of music from the idea of a magical character to highlight some of its areas of influence (physiological, psychological and psychotherapeutic, socio-pedagogical). However, beginning from ancient times, leading scientists recognized the important role of music in the treatment and correction of a personality.

Using historical experience in correctional - educational activities provide an opportunity to consciously approach the use of music in the different categories of children, including those ones with the disturbances of mental and physical development, grounding their feasibility.

## References

1. Al-Balah, A. (2009). *Scientific explanation of music therapy*. Retrieved from: <http://kenanaonline.com/search>
2. Apraksina O. A. (1990). *From the History of Music Education: chrestomathy*. – M.: Prosveshchenie.
3. Babadzhan T. S. (1936). *Music Moving Work with Pre-schoolers* – M.: Muzgiz.
4. Berenbojma, G. B. (1970). *The System of Child's Music Upbringing of Carl Orf*. Leningrad.
5. Chuvashhev I. V. (1955). *Outline of the History of Pre-school Education in Russia*. – Moscow: Uchpedgiz.
6. Demianko N. (1999). Scientific methodological works of Vasyl Verkhovynets. *Mistetstvo ta osvita*, 3, 49-53.
7. Ebert, D. (1999). Stress and Relaxation. *Physiological aspects of yoga*, 166- 171.
8. Fedotov E. S. (1974). Ukrainian Classic Composers about the Esthetic Education of Children. *Radyanska shkola*, 11, 62-66.
9. Kalmykova, S. (2001). Musical Aesthetics in Ancient Philosophy and Early Christianity. *Universum Plato Thought: Neo-Platonism and Christianity. Apology of Socrates*, 42-50.

10. Kartava Iu. A. (2014). *Theoretical and Methodological Basics of Music- Rhythmical Education of Pre-schoolers with Sight Disturbances: educational methodological manual*. Sumy: Vyd-vo SumDPU im. A. S. Makarenka.
11. Larina I. A. (1996) *Content of Music Pedagogical Preparation of Pre-school workers in Ukraine (20s the beginning of 30s of XX century.)*. Kharkov.
12. Lobova, O. (2010). *Formation of Bases of Musical Culture of Younger Schoolboys: theory and practice: monograph*. Sumy: «Dream».
13. Matsyshina, E. (1998). *Psychophysiological Effects of Music on the Human Body*. Retrieved from: <http://festival.1september.ru/articles/598891>
14. Medvedeva, E., Komissarova, L., Shashkina, G., Sergeeva O. (2002). *Musical Education of Children with Developmental Problems and Corrective Rhythm*. Moscow: Izdat. center «Academy».
15. Mihaylichenko O. V. (2004). *Basics of General and Music Pedagogics: theory and history: educational manual for students of music specialties*. – Sumy: Vid-vo „Nauka”.
16. Nikolai, H. Iu. (2009). Genesis of System of Music Rhythmical Education E. Zhak-Dalkroza and its Function in Europe. *Pedahohichni nauky: theory, history, innovative technologies. Zb. nauk. Prats*, 361-372.
17. Nikeeva, I. A. & Fattakhova, L. R. (2004). *The History of Music: a tutorial*. Omsk: Omsk State. University Press.
18. Rusova S. (1918). *Pre-school Education. Ordered*. – Katerinoslav : Ukrayinske vid-vo.
19. Suhomlinskiy V. O. (1970). *The Birth of a Citizen*. – K.: Radyanska shkola.
20. Shatskaya V. N. (1975). *Music – Esthetic Education of Children and Adolescents*. – Moscow: Pedagogika.
21. Sheremet L. P. (1995). *Role and Place of Music in the Development of a Personality*. Sumy: Mriya-1.
22. Shcholokava O. P., Ship S. V., Shevnyuk O. L., Semashko O. M. (2004). *World Art History: from te Ancient Society till the Middle Ages: Educational Manual* – K. : Vishcha shkola.
23. Taher, N. (2012). The Therapeutic Effects of Music. *Psychological Journal*, 3-4, 116-120.
24. Teplov B.M. (1947). *Psychology of Music Abilities*. – M. : APN RSFSR.

25. Tugeeva, L. (2011). Aristotle. *The doctrine of mimesis*. Retrieved from : [http : // tugeeva.ru /? P = 282](http://tugeeva.ru/?P=282).
26. Vetluchina N. A. (1990). *Educating the Esthetic Attitude of a Child to the Environment: Basics of Pre-school Pedagogics*. – Moscow: Pedagogika.
27. Vetluchina N. A. (1958). *Development of Music Abilities in the Process of Music Games*. – Moscow: Izd-vo APN RSFSR.
28. Vyhotskiy L. S. (1987). *Psychology of Art* / Pod red. M. G. Yaroshevskogo. – M. : Pedagogika.
29. Zemtsova M. I. (1956). *Ways of Blindness Compensation in the Process of Cognitive Activity*. – M.: Izd-vo APN RSFSR.