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ВЛИЯНИЕ МУЗЫКИ НА ОРГАНИЗМ И МОЗГ ЧЕЛОВЕКА

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Резюме. Музыка – гармоническое сочетание инструментальных или вокальных звуков, которое вовлекает в комплексную работу все отделы мозга. Музыка воздействует на пульс и частоту сердечных сокращений, а так же может быть эффективным инструментом управления стрессом.

Ключевые слова: музыка, мозг, пульс, Моцарт.

Resume. Music is one of the few activities that involve the whole brain. It slows the pulse and heart rate. Music has a unique link to our emotions, so it can be an extremely effective stress management tool.

Keywords: music, brain, pulse, Mozart.

Topicality. Music is one of the few activities that involve the whole brain. It has surprising benefits not only for learning language, improving memory and focusing attention, but also for physical coordination and development [1].

Objective: To explore and prove that music has an effect on the human body. To examine the correlations between music and mind, to uncover the profound impact that various genres of music can have on concentration and comprehension.

Tasks:

1. To study the Mechanics of Music and to trace music interconnection with society throughout history.
2. To learn how musical training shapes the brain.
3. To study the impact of different instruments on the organs of the human body.

Material and methods. To explain the influence of music on the pulse we measured it in a group of people before and after listening to “Moonlight Sonata” by Beethoven, "Summer" from “Four seasons” by Antonio Vivaldi, Mozart Symphony #40 in G Minor, Green Day “American Idiot”, Nirvana “Smells Like Teen Spirit” (table №1).

Results and discussion. Research shows that fast tempo of music causes increase of the heart rate, slow tempo of music has the opposite effect on the body (picture 1). Listening to music, especially slow, quiet classical music can have a tremendously relaxing effect on our mind and bodies. This type of music can have a beneficial effect on our physiological functions, slowing the pulse and heart rate, lowering blood pressure and decreasing the levels of stress hormones (picture 2).

Daily doses of Mozart won't clean out your arteries or fix a faulty heart valve, but music can help ease your recovery from a cardiac procedure, get you back to normal after

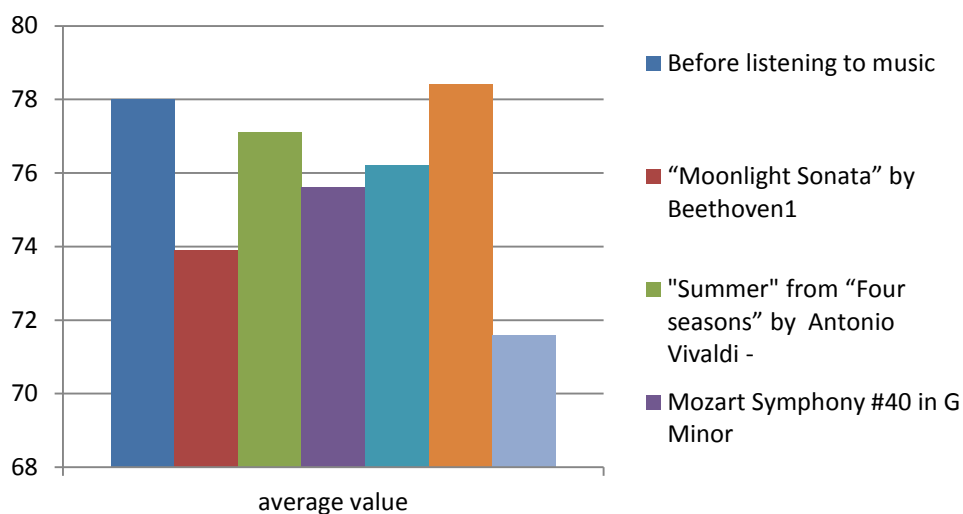
a heart attack or stroke, relieve stress, and maybe even lower your blood pressure (picture 3).

Table1. Changes in the heart rate

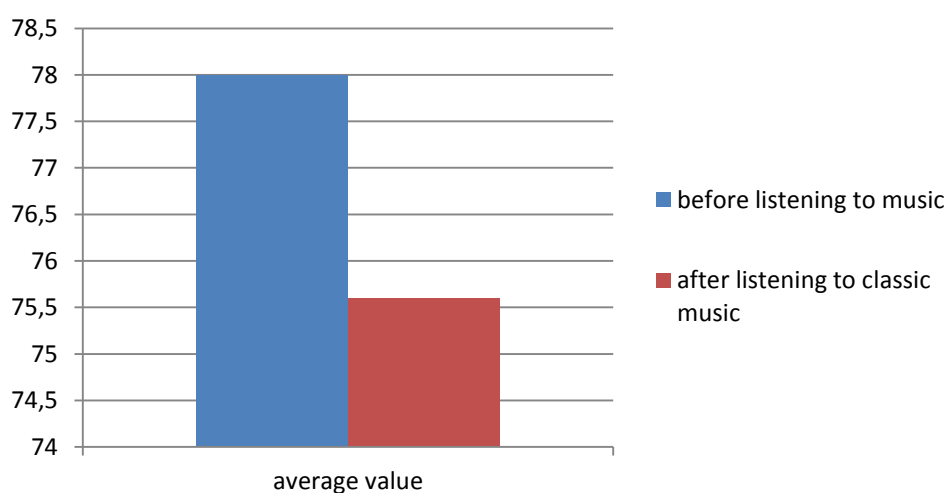
subjects	Heart rate, beats per minute						
	Before listening to music	"Moonlight Sonata" by Beethoven1	"Summer" from "Four seasons" by Antonio Vivaldi	Mozart Symphony #40 in G Minor	Green Day "American Idiot"	Nirvana "Smells Like Teen Spirit"	"Moonlight Sonata" by Beethoven2
Azarenkova	72	80	80	80	80	75	66
Berezkina	78	81	80	77	75	90	67
Golubchik	80	69	82	71	76	78	76
Gorelova	78	59	75	73	74	74	65
Kanbar	70	68	64	70	64	75	67
Klakotskaya	112	105	106	113	105	109	102
Danovich	74	71	78	73	83	82	74
Ustinovich	70	59	60	60	55	55	56
Malikzad	68	70	67	61	68	67	67
Shaikova	78	77	79	78	82	79	76
average value	78	73,9	77,1	75,6	76,2	78,4	71,6

From our experiment we learnt that music certainly has an influence on blood pressure and heart rate. Moreover, the tempo and genre of music influences specific changes of the heart rate. The collected data show significant correlation between various music tempo and changes in the heart rate and blood pressure [2].

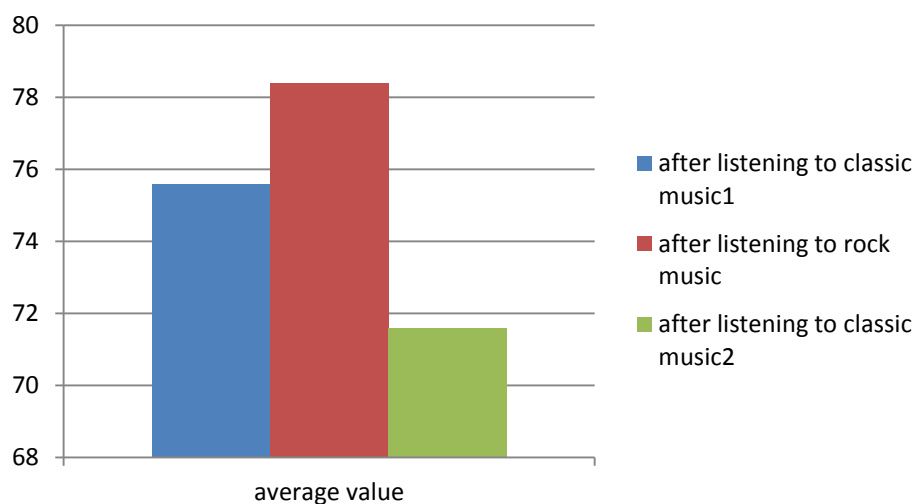
The soothing power of music is well-established. It has a unique link to our emotions, so can be an extremely effective stress management tool.



Picture 1 - Changes in the heart rate



Picture 2 - Heart rate after listening to the classic music



Picture 3 - Heart rate after listening to classic music

Findings:

- 1 Music has the influence on human body and brain.
- 2 There are structural brain distinctions between «musicians» and «non-musicians».
- 3 *Music therapy, or just listening to music, can be good for the heart.*

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THE EFFECT OF MUSIC ON THE HUMAN BODY AND BRAIN

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Литература

1. Music for Health & Wellbeing [electronic resource]: Self Help & Therapist Resources. – URL: <http://www.getselfhelp.co.uk/music.htm> (date of access – 15.03.2015).
2. What happens to your brain under the influence of music [electronic resource]: io9. – URL: <http://io9.com/5837976/what-happens-to-your-brain-under-the-influence-of-music> (date of access – 20.03.2015).