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**Changes
of psychophysiological parameters
under the influence of music
of different rhythm, melody, tonality**

The aim of this work was to consider the influence of different music on the psycho-emotional and functional state of a person.



The study materials.



Forty-six students of the third year of medical University, the average age of twenty years were examined. All of the students were physically healthy and motivated for testing.

Methods of research:

- 1.heart rate;**
- 2.respiration rate;**
- 3. the Kerdo index showed the dominance of some part of the autonomic nervous system;**
- 4. the ratio of Hildebrant determined systemic relationship;**
- 5.proof test Bourdon;**
- 6.the speed of the arithmetic account.**

The choice of psychological techniques was associated with the need to assess the work of higher mental functions.

Test Bourdon showed the characteristics of attention.

The "arithmetic counting Rate" test showed the predominance of excitation or inhibition processes in the cerebral cortex

The algorithm of the experiment.

The students were randomly divided into 4 equal groups.

At the heart of the random distribution was the student's willing to listen to this or that music.

Students from 1 and 2 groups, separately from 3 and 4 groups, at the same time were asked to choose between listening Russian modern popular music or Western music in the style of "trance" for an hour.

A similar simultaneous choice was offered to 3 and 4 groups, listening to Oriental ethnic music or Chinese music.

Testing was conducted twice-before and after the musical impact.

Research results



RUSSIAN
POP
MUSIC



Table 1**Results of changes in psychophysiological state of 24 volunteers after listening to modern Russian popular music and Western music in the style of «trance»**

	Русская современная популярная музыка Russian contemporary popular music		Западная музыка в стиле «трэнс» Western music in the style of «trance»	
	1 group		2 group	
	фон background study	после прослушивания музыки after listening to music	фон background study	после прослушивания музыки after listening to music
Корректирующая проба Бурдона (баллы)	-	-	-	-
<i>концентрация внимания</i> concentration of shifting	62,38±64,05	83,59±63,13	°25,07±17,51	30,67±31,39
<i>устойчивость внимания</i> sustainability of shifting	0,59±0,09	0,63±0,13	0,53±0,13	*0,79±0,17-
<i>переключаемость внимания</i> attention of shifting	32,31±28,53	25,09±23,43	°43,86±24,94	37,23±28,51
Скорость арифметического счета (секунды) The speed of the arithmetic account (seconds)	7,36±3,69	7,72±3,82	8,63±3,35	10,48±12,38
Частота сердечных сокращений (удары в минуту) Heart rate (beats per minute)	66,72±4,98	66,18±8,87	58,27±5,25	*72,54±10,9-
Частоты дыхания (цикл «вдох- выдох» в минуту) Respiration rate (inhale-exhale cycle per minute)	18,81±3,06	18,45±3,32	°12,9±2,1	*16,4±3,8-
Индекс Кердо Kerdo Index	-109,81±18,31	-111,8±16,66	°-21,8±14,1	*2,4 ±20,1-

Note: * - significant difference of the studied characteristics within the group in the background and after the study, ° - significant difference of the studied characteristics between the two groups before the study, P0, 05, - an indicator of adverse significant changes in the studied parameter after listening to music.

Table 2**Results of changes in psychophysiological state of 22 volunteers after listening to Chinese music and Eastern ethnic music**

	Китайская музыка Chinese music		Восточная этническая музыка Eastern world music	
	3 group		4 group	
	фон background study	после прослушивания музыки after listening to music	фон background study	после прослушивания музыки after listening to music
Корректирующая проба Бурдона (баллы)	-	-	-	-
<i>концентрация внимания</i> concentration of shifting	55,8±69,8	54,9±38,7	°81,4±47,8	*45,2±35,1+
<i>устойчивость внимания</i> sustainability of shifting	11,3±1,5	*10,0±1,6+	11,6±1,9	10,3±2,1
<i>переключаемость внимания</i> attention of shifting	24,8±12,3	24,1±19,2	°14,7±13,5	*35,9±15,5+
Скорость арифметического счета (секунды) The speed of the arithmetic account (seconds)	5,6±4,7	4,1±2,5	7,0±6,2	8,8±6,0
Частота сердечных сокращений (удары в минуту) Respiration rate (inhale-exhale cycle per minute)	78,2±8,4	*73,5±8,5+	°71,3±10,4	68,9±7,1
Частоты дыхания (цикл «вдох-выдох» в минуту) Respiration rate (inhale-exhale cycle per minute)	19,1±2,5	*20,8±1,9-	17,3±2,6	*18,5±2,1-
Коэффициент Хильденбранта The Ratio Of Hildebrant	3,6±1,1	3,6±0,5	4,2±0,5	*3,7±0,4+

Note: * - significant difference of the studied characteristics within the group in the background and after the study, ° - significant difference of the studied characteristics between the two groups before the study, P0, 05; + an indicator of positive significant changes in the studied parameter after listening to music; - an indicator of adverse significant changes in the studied parameter after listening to music.

Conclusion

- **Listening to music do affect the psycho-emotional and functional state of a person, change his psychological and physiological parameters, change qualitatively personality.**
- **It should be noted that these changes do not always lead to optimization of the state. It is necessary to understand that there must be an internal information filter or censor that will not allow to destroy the personality.**

THANK YOU FOR LISTENING

SONATE

W. A. Mozart
Köchel Nr. 331

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Andante grazioso

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