Environmental Friendliness of a Person's Musical Space as a Factor of Personality Disharmony Prevention

Nataliia Yu. Maksymova^{1,*}, Antonina Hrys², Mariia M. Pavliuk², Mykola V. Maksymov³ and Nataliia I. Ivantsev⁴

Abstract: The article discusses correlations between a person's musical space and the degree of personality harmony. The sound environment of a person always influences personality formation and his/her behaviour. By studying a person's musical preferences, a degree of harmony of his/her personality development can be understood. The article's purpose is to determine the correlation of musical preferences with the existence of personality disharmony and types of his/her relationships with others, as well as to determine the specifics of the impact of music on personality features of people with special needs. The research aimed to study relations of personality features that testify disharmony and manifest in non-viable relationships with others. The personality manifestations in communications and educational activities were also analysed. It was determined that music therapy plays an important role in forming their personalities for people with special needs. The correlation of personality traits with the perception of music has shown that persons with the external locus of control choose musical discourses that, as for their psychological content, reflect uncertainty, amorphy of world perception, or its simplicity, primitiveness. On the contrary, persons with the internal locus of control choose energetic, purposeful music. It was concluded that persons with disharmonious relationships choose music whose psychological and emotional content reflects the next personality traits: possible aggressive behaviour, a life course that does not demand serious decisions, irresponsibility, and reluctance to resolve complex situations.

Keywords: Art, human behaviour, spiritual culture, perception, psychological and emotional reflects.

INTRODUCTION

The sound environment of a person always influences his/her personality formation and his/her behaviour. Mankind development cannot be imagined without perpetual attention to the palette of surrounding sounds, noise, and musical phenomena, often affecting a person more than visual or sensory factors. Art is a special way of world perception; it influences spirituality, like education, but in another way. An aesthetic experience remains unclear as for its nature and hidden as for its essence and running. A person never knows and does not understand why he/she likes some artwork. All words expressed to explain art influence are only assumptions, rationalisation of unconscious processes. The existence of direct, directive-based access to the human psyche through auditory perception is proved by researches [1-5]. Any work of art under scientific analysis is considered by a psychologist as a system of stimuli, organised

deliberately and interestedly in such a way as to cause an aesthetic response. At the same time, analysing the stimuli structure, a scientist should recreate the structure of human reactions to the influence of music, dance, poetry, etc. Consequently, without a special psychological study, it is impossible to understand which objective laws govern feelings influenced by a work of art that explains the necessity of conducting such research.

Revealing a musical discourse role in the given context should proceed from the fact that deepening the sub-cultural differentiation in modern society leads to population fractionation according to the chosen sources of musical information [6-8]. From ancient times, music was used to influence a person's mental state. As for music, universal methods of human influence have been found here. For example, military marches or hymns always cause spiritual uplift, cheerfulness. Musical methods such as dashed rhythms, cyclicality, the major key, the "ascending" quartet are always used in this musical genre.

Consequently, it can be assumed that specific mechanisms affect the human psyche to react

¹Department of Social Rehabilitation and Social Pedagogy, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

²Laboratory of Psychology of Socially Maladjusted Juveniles, G.S. Kostiuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine

³Department of Developmental Psychology, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

⁴Department of General and Clinical Psychology, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine

^{*}Address correspondence to this author at the Department of Social Rehabilitation and Social Pedagogy, Taras Shevchenko National University of Kyiv, 01033, 60 Volodymyrska Str., Kyiv, Ukraine; Tel: +380442393333; E-mail: n.maksymova@delfttech.eu

consciously or unknowingly to musical themes. The negative influence of an unformed or inadequate vision of the contemporary musical space is enhanced by the accumulation of disharmoniously aggressive sound environments. For example, the sound background of computer games (having violent content) is saturated with many musical and noise effects, provoking addiction to dissonant combinations. Such combinations include dynamically contrasting accents, distortion of musical and human intonations, switching from a musical idea to artificial effects, etc.

People react to such background in different ways: some can reject these influences and resist them, for example, listening to classical music after working with a computer. However, more often, young people are immersed in such a musical space, which in the future can lead to the development of personality disharmony. Music therapy is an important means of children's educational process with intellectual disabilities since this process often requires additional and non-standard methods. Children with intellectual disabilities may not show that they listen and demonstrate an unwillingness to participate in in-class activities. They are easily distracted and may make many mistakes due to inattention. Noises, teaching style, and even the teacher's voice and behaviour may serve as a distraction. Appropriate usage of music therapy may decrease the influence of the factors mentioned above. Also, songs can enhance and encourage verbal skills for pre-verbal or speech-delayed children.

The mechanism of art influence can be represented in such a way: aesthetic reactions are based on effects caused by art and experienced by a person with all their reality and power, but such effects are diffused in fantasy necessary for art perception [9]. Due to this, the external motor side of the effects is delayed and suppressed, and the person begins to seem that he/she is experiencing only illusory feelings. Any art is based on this unity of feelings and fantasies [9-13]. By studying a person's musical preferences, a degree of harmony of his/her personality development can be understood. A person's musical interests form a link in his/her general spiritual culture, and this link, like a mirror, reflects the person's characteristics and treats with greater or less completeness [14, 15]. The conceptual approach to the study of correlations between personality characteristics with his/her peculiarities of music perception was to identify the basic parameters of musical perception and certain components of behavioural manifestations that reflect the degree of personality harmony [16].

The study object is a degree of personality harmony and the specifics of personal relationships with other people in accordance with the peculiarities of personal perception of music. The article aims to determine the correlation of musical preferences with the existence of personality disharmony and types of personal relationships with others.

METHODS

The empirical study aimed to study relations of such personality features that testify to the personality disharmony and manifest in non-viable relationships with others [17-20]. In particular, the interests, value orientations, locus of control, the power to integrate personal life experiences, and development of reflection were examined. These parameters are the system-forming factors of young people's harmonious personal development. At the same time, the personality manifestations in communications and educational activities were also analysed. The empirical study included the following components:

- Studying the musical interests of young people in accordance with the following parameters: social statuses of young people (students of educational institutions of the first and second accreditation levels (vocational schools) and students of educational institutions of the third and fourth accreditation levels (universities); educational success; the influence of family environment; gender. A wide range of value orientations was studied, including their attitudes to musical classics, folk songs, author's amateur songs, hard rock, and disco music.
- 2. The next techniques for the study of the personal qualities indicating the existence of disharmony were used: the method of subjective control determining [1], the method of narrative [21-23].
- 3. To study social relationships and attitudes to significant and other people reflecting resources for effective social support, the method "I, significant Other, others" was used [24].

The sample consisted of 136 people; 64 of them were students of vocational schools, and 72 were university students. The empirical study determined attitudes towards the music of different types of first academic-year university students and the fourth academic-year students of vocational schools. The students' musical preferences were compared with the social status of their families, which was determined by

the levels of education of their parents and the nature of their occupations. An in-depth study was conducted using specially created musical pieces to study the above personality parameters, social relationships, and types of relationships with other young people according to their musical preferences. Based on the conclusions of the theoretical part of this research as for musical discourse (as a constitutive personality trait), 11 musical fragments, serving as stimulating material for studying music perception peculiarities, were created [25,26]. After listening to each piece, the respondents were asked to describe: the mood of the music they heard, thoughts invoked by this music, visual images that appeared under the music's influence, and what the respondents wanted to do listening to a certain piece of music. The next task was to listen again to the same 11 fragments and prioritise them according to how much they liked them.

RESULTS

The study shows that peculiarities of musical perception and evaluation of musical works are influenced by listeners' belonging to a particular social group of a certain population stratum, having the corresponding subculture. Their age, education levels, of residence influences their preferences no less than the existence or absence of special musical education [27-30]. Thus, young people from families with a high social status receive more often education in universities, and their attitude towards cultural objects is more mature and socially valuable. They marked one and a half times more often their positive emotions at the perception of classical music than those who studied in vocational schools. Combining music and learning for children with special needs can effectively solve problems of various kinds, including medical and psychological ones. Children learn to solve conflicts, reason. Physical activity develops, and coordination improves. Singing songs in class increases students' interest in the learning process. Music therapy can improve students' attention and increase their activity in the classroom.

It can be concluded about both the normative absorption of culture and the higher spiritual development of persons studying in universities. 25.1% of such students, in particular, play the piano and other musical instruments. As for hard rock, university students assessed it negatively twice as often as vocational school students (25.7% of university students, compared with 11.5% of vocational school students). Music perception also correlates with the

success of learning. 16.7% of people getting high grades, 25.8% students studying "well", and 66.7% of students experiencing constant failure in their studies felt delighted at listening to hard rock. None of the unsuccessful students of both types of educational organisations felt any negative emotions listening to this music genre. But such experiences were noted by 20% of people studying excellent and 24% studying "well". Given this, it can be assumed that this musical genre has a special compensatory function, which is actualised at experiencing life difficulties or failures [31, 321.

The next analysis of the study results shows that students studying "excellent" or "well" gave twice as many positive assessments of folk songs than students experiencing permanent failures in their studies [30]. The attitude of all respondents towards disco music, in general, was homogeneous and positive, but as for the author's amateur songs, the greatest number of positive reviews was given by the students actively involved in public life and studying well. The assessment of musical genres proved to be dependent on gender. The girls evaluated classical music positively approximately one and a half times more often than the boys (46.4% of the girls, 31.1% of the boys). The opposite is observed for hard rock. Here, the positive assessments by the boys were twice as high as that of the girls. The analysis of the above data concludes that university students, in comparison with vocational school students, have self-concepts more mature in the social plane, and the obtained results underlie this fact that they assessed higher classical music [33-36]. Very often, this is not so much merit of a secondary school, where these young people studied before transfer into other educational institutions, but the influence of their families, their parents having a high educational and cultural level. For children with problems transitioning from one activity to another, music can help organise and structure processes and positively influence their success.

Six musical pieces were selected from the informative fragments based on expert assessments. These musical fragments were created in accordance with some psychological content of world perception reflected in music [37-41]. During the results' analysis for musical piece ranking, it has been discovered that the respondents have a particular pattern at fragment selection. The music of some fragments was perceived indifferently (that is, these musical pieces were non-informative), but also there were musical pieces liked or vice versa rejected.

Fragment number 1: its rhythm is unstable, its main feature is fluidity, and the melody is practically not traceable. Its dynamics are homogeny, and sound volume is low. This music does not have a clear musical form. According to the psychological content, this music reflects passivity, indifference, rejection of purposeful activity. Fragment number 2: its rhythmic component resembles a wide breadth. The tender melody sounds clearly and distinctly; the constant alternations of major-minor colours encourage the listener to emotional strain and sympathise. The psychological content of this music reflects the complex emotional experiences of a person. Fragment number 3 is a simple, clear rhythm giving impetus to energy. The melody is swift and constantly goes to the climax and then begins to move again from the bottom to the top. Its psychological content is music that induces actions and movement. Fragment number 4 is a simple motif that can be easily and quickly memorised, having entertaining, popular pop music. features of Psychological content: music reflects a person's character having a frivolous, simplistic approach to life. Fragment number 5: the rhythm is simple; the melody is consonant, balanced. Its sound dynamic is rich in contrast and corresponds to classical musical means of expression. Its psychological content is: elegance and perfection of harmony evoke piety before the majesty and beauty of eternal truths. Fragment number 6: the repeated rhythmic phrase sounds throughout the entire piece without changes. The rhythm is moving. The melodic line does not have a clear character. Low frequencies prevail, giving rise to anxiety and aggression. Psychological content is imitating a destructive or chaotic act, causing a sense of absorption, loss of subjectivity, the desire to join a bacchanalia [40, 42] recklessly.

Firstly, based on the study tasks, to study correlations of personal characteristics inherent to the above groups, all respondents were divided into

samples according to their musical preferences by their choice of musical fragments. 62 persons who ranked the highest the second, third and fifth musical fragments - the group "A" and 74 persons preferred the first, fourth, and sixth music pieces - the "B" group. The analysis of the musical fragment choice by the two groups shows a correlation between personality traits and musical preferences. In particular, the respondents evaluating positively the musical part number 3 belong to the internals in accordance with the technique determining the locus of subjective control (Spirman [7] coefficient of rank correlation is 0.67), while the respondents evaluating positively that the music fragment number 1 are externals (Spirman coefficient of rank correlation is 0.71) [42-46]. Consequently, persons with the external locus of control choose musical discourses that, as for their psychological reflect uncertainty, amorphy of world perception or its simplicity, primitiveness; on the contrary, persons with the internal locus of control choose energetic, purposeful music. The level of reflection development and the degree of their ability to integrate the life experiences of the respondents from both groups was discovered by analysing their narratives with the appropriate markers. experimental data presented in Figure 1 confirm that the respondents in group "A" have a much higher ability to integrate their personal experience than the respondents in group "B" [47].

Thus, the group "B" respondents have a low level of ability to analyse the events taking place in their lives, assess their role in them, capabilities, and abilities, and are unwilling to conclude these events. The reliability of such differences is confirmed by the Wilcoxon-Mann-Whitney criterion [28, 29] (p <0.01). Thus, the empirical study has shown the existence of correlations between choosing musical fragments having some psychological content and the personal traits of the respondents. The study performed with the "I,



Figure 1: Distribution of the respondents in accordance with their reflection development and their ability to integrate their life experiences.

significant Other, others" method show that respondents with the disharmonious type of relationships prefer music having psychological content related to such characteristics as "amorphous" closely, "primitive", and "destructive" (respective Spirman coefficients of rank correlation are 0.85, 0.49, 0.56). This can be explained by the fact that the combination of these musical fragments reflects the following personality parameters emotionally: possible aggressive behaviour, a life course that does not demand serious decisions, irresponsibility, reluctance to resolve complex situations [48-52]. Musical fragments preferred by young people who build their relationships on cooperation are diametrically opposite. They assessed negatively music fragments conventionally called "amorphous", "primitive", and "destructive". In such fragments, they do not find the reflection of their emotional states (especially in their relations to others and approaches to a particular work) [53-56]. This is explained by the fact that people who can build relationships on cooperation have the opposite personal traits compared to those who have destructive relationships.

Table 1: Distribution by the Types of Interpersonal Relationships in the Groups

Type of relationship	Group A	Group B
Assertive	9	0
Disharmonious	3	6
Protective	22	36
Cooperation	24	0
Pair type	5	2
Dependent type	26	32
Egocentric type	12	24

As Table 1 shows, the largest differences between the studied groups are for the assertive and cooperative relations [52, 57]. The assertive type of relations constructive interpersonal is and characterises a person as a mature one who understands own goals and desires, aspires to and is able to defend own interests and defend own rights in relationships with others without thereby violating their interests and rights. The cooperative type is similar to the assertive one, but it shows a slightly lower level of autonomy, independence. People building relationships on cooperation seek to work closely with other people to achieve their goals and share responsibility for their decisions; they have a high inclination to compromises [50, 58-61].

The egocentric type of relationship is characterised by ego-orientation, orientation towards self, the desire to be above all [57], but at the same time to be aloof from all, a tendency to rivalry, escaping from open relationships, the desire to subjugate others. Relations with others are insincere, "false", and serve only to meet their own goals. The blame for complications appearing in relationships is shifted onto meaningful people and sometimes onto others. This type of relationship is inherent for socially maladapted persons in general [62-65]. They feel loneliness, believe that their nearest and dearest do not understand and cannot understand them, and have even less hope for understanding from other people. As can be seen from the table, the young people chosen musical fragments "amorphous", "primitive", and "destructive" have twice as often this type of relationship. Thus, the performed empirical study has shown the correlation between the preference of the musical fragments having determined psychological content and personal characteristics [28, 66]. Consequently, if the integral system of mental images that arose during music listening is consistent with some personality traits, so the person prefers precisely these musical fragments.

DISCUSSION

Modern studies [17, 18, 33-41] of the musical art influence on personality development prove that music, opposite emotions, holds off expressions of the emotions, pushes together opposing emotional impulses, destroys the effects of contents and forms affects, resulting in an explosion or a nervous energy discharge. The catharsis of the aesthetic reaction takes place in such transformations of effect that lead to their self-burning, explosive reactions, resulting in relaxation of already appeared emotions. The foregoing makes it possible to determine the optimal conditions to maintain the psychological balance of a person with his/her environment. It takes place due to the compensation of an unconscious attitude with a conscious one. Otherwise, unconscious impulses can suppress consciousness, and a person's psyche is saturated with conflicts. Destructive impulses that arise from these states at any time can get out of control and push the person to immoral or criminal acts. Consequently, the environmentally friendly musical space is the factor of the external environment harmonising the internal world and the external one, and that is why an important component of personality formation [25, 40]. One of the causes of personality disharmonies, causing deviations in behaviour and inobservance of social norms, is the influence of nonenvironmentally friendly musical spaces. A space, like time, is a component of any artistic, including musical, work. It is quite right that the category of space occupies one of the central places in modern scientific knowledge [30, 65-67]. The multiplicity and variety of its manifestations and interpretations in science complicate understanding of this category in art. The general tendency of spatial music properties understanding in the European professional tradition is changes made in the semantic loading of the spatial category in each epoch, from the Middle Ages to the XXI century [19].

The performed analysis of literary sources [10-12] shows that the high appreciation and recognition of classical music as an important element of own spiritual baggage arise as the result of a certain maturity of a person's pro-social attitudes, his/her style of life chosen in accordance with his/her value orientations, his/her self-concept based on the vision of him/herself as a civilised person. The music's influence on mood and perception is indisputable. Let us give a quote from Ivan Turgenev's "A House of Gentlefolk": "Suddenly it seemed to him that in the air over his head were floating strains of divine triumphant music. He stood still. The music resounded in still greater magnificence; a mighty flood of melody - and all his bliss seemed speaking and singing in its strains. The sweet passionate melody went to his heart from the first note; it was glowing and languishing with inspiration, happiness, and beauty; it swelled and melted away; it touched on all that is precious, mysterious, and holy on earth. It breathed of deathless sorrow and mounted dying away to the heavens. Lavretsky drew himself up and rose cold and pale with ecstasy. This music seemed to clutch his very soul, so lately shaken by the rapture of love, the music was glowing with love too" [13].

Music affects children with disabilities differently, usually decreasing their anxiety, improving communication and concentrating levels [12, 47, 68]. Music therapy can be used to follow classroom routines and solve particular issues, including teaching reading techniques and contributing to their general cognitive development. Information processing and behaviour of children with intellectual disabilities may improve with music therapy. The given example of the positive music influence on the person's state proves that the musical space is an important part of general and musical culture formation [55]. At present, no experimental studies are proving the negative impact of "toxic music" yet. However, the problem of personality disharmony

due to the negative influence of the disharmonious musical space needs to be solved [19]. Every child with a disability has an educational potential and can fully reveal it with a properly structured educational process. Music can help those children in their learning and development. Musical therapy interventions can help in practising certain skills.

CONCLUSIONS

A person's musical tastes reflect the harmony of his/her personality development. The choice of musical discourse is closely linked to his/her general cultural development and hence to the person's value orientations, interests, and focuses. Moreover, certain features of the personality and his/her type of relations with other people correlate with his/her choice of the corresponding musical pieces. The mechanisms of musical perception and evaluation of musical compositions are influenced by a listener's belonging to a specific socio-demographic stratum. His/her age, level of education, place of residence influence his/her musical preferences no less than the existence or absence of musical education.

University students, in comparison with vocational school students, have a more mature self-concept in the social area, and this fact is underlined by their preference for classical music. While studying correlations between musical preferences psychological peculiarities of young people with personality disharmonies, it was determined that such people lean toward the dangerous environment. Such musical patterns that are based on dissonances include "non-musical" sounds (rubbing iron, rumbling falling water or stones, screeches of an electric saw, or sounds of other technical devices) and have too loud a volume. Undeveloped skills of productive interaction with meaningful people, low level of internality, reflection, weak ability to integrate their life experience of young people correlate with their choice of music, symbolising indifference, refusal of purposeful activity, passivity.

Music can influence the learning process, including improving the quality of education for people with intellectual disabilities. The use of music during the learning process can provide resources to move forward in inclusive efforts. At the same time, the rejection of low-level art, particularly kitschy samples of rock music as a kind of psycho-emotional doping, take place only with improvement and enlargement of musical education, which, of course, is necessary, but

also with creating of all conditions contributing to harmonious personal development and the formation of a positive self-concept. Prospects for the research are to understand the mechanisms of musical art influence on personality formation to develop corrective psychological programs with changing a music space as one of the components of these programs.

ACKNOWLEDGEMENT

None.

REFERENCES

- [1] Rotter JB. Cognates of personal control: Locus of control, self-efficacy, and explanatory style: Comment. Applied and Preventive Psychology 1992; 1: 127-129. https://doi.org/10.1016/S0962-1849(05)80154-4
- [2] Bansal J, Flannery MB, Woolhouse MH. Influence of personality on music-genre exclusivity. Psychology of Music 2020. https://doi.org/10.1177/0305735620953611
- [3] Lu F, Tintarev N. A diversity adjusting strategy with personality for music recommendation. CEUR Workshop Proceedings 2018; 2225: 7-14.
- [4] Wang J. Influence mechanism of music education on psychological health of non-music major students. Revista Argentina de Clinica Psicologica 2020; 29(1): 1076-1081.
- [5] Manolios S, Hanjalic A, Liem CCS. The influence of personal values on music taste: Towards value-based music recommendations. In: RecSys 2019 - 13th ACM Conference on Recommender Systems (pp. 501-505). New York: Association for Computing Machinery. https://doi.org/10.1145/3298689.3347021
- [6] Wen H, Sze NN, Zeng Q, Hu S. Effect of music listening on physiological condition, mental workload, and driving performance with consideration of driver temperament. International Journal of Environmental Research and Public Health 2019; 16(15): article number 2766. https://doi.org/10.3390/ijerph16152766
- [7] Chung Y-C, Greasley AE, Hu L-Y. The relationship between musical preferences and Type D personality. Psychology of Music 2019; 47(1): 3-17. https://doi.org/10.1177/0305735617733809
- [8] Bykhovsky H. From catharsis to a work of art. In: Psychoanalysis and Culture. New York: Free Press 1955.
- [9] Kazantseva LP. The content of a piece of music in the context of artistic culture. Astrakhan: State Enterprise AO IPK Volga 2005.
- [10] Minayev EA. The musical information field in the evolutionary processes of art: thesis of the Candidate of Art Criticism. Moscow: Musical College named after the Gnesins 2000.
- [11] Vygotsky LS. Psychology of art. Moscow: Pedagogika 1987.
- [12] Maslow A. Self-actualization. Psychology of personality. Moscow: Moscow State University 1982.
- [13] Turgenev IS. Complete works and letters in thirty volumes. Moscow: Nauka 1981.
- [14] Chepelva NV. Social and psychological official's intelligence and interpretation of special information. Kyiv: Pedagogichna dumka 2008.
- [15] Kuprieieva O. Psychological characteristics of self-realisation of students with disabilities. Social Welfare: Interdisciplinary Approach 2015; 2(6): 210-211.

- [16] Tokareva N, Zykova S, Talismanov V. The relationship of psychological, clinical and biological components in epilepsy. E3S Web of Conferences 2020; 217: 08006. https://doi.org/10.1051/e3sconf/202021708006
- [17] Parisi GF, Papale M, Rotolo N, Aloisio D, Tardino L, Scuderi MG, Di Benedetto V, Nenna R, Midulla F, Leonardi S. Severe disease in Cystic Fibrosis and fecal calprotectin levels. Immunobiology 2017; 222(3): 582-586. https://doi.org/10.1016/j.imbio.2016.11.005
- [18] Maslak K, Favara-Scacco C, Barchitta M, Agodi A, Astuto M, Scalisi R, Italia S, Bellia F, Bertuna G, D'Amico S, La Spina M, Licciardello M, Lo Nigro L, Samperi P, Miraglia V, Cannata E, Meli M, Puglisi F, Parisi GF, Russo G, Di Cataldo A. General anesthesia, conscious sedation, or nothing: Decision-making by children during painful procedures. Pediatric Blood and Cancer 2019; 66(5): e27600. https://doi.org/10.1002/pbc.27600
- [19] Banyra OB, Ivanenko O, Shulyak A. Mental status in patients with chronic bacterial prostatitis. Central European Journal of Urology 2013; 66(1): 93-100. https://doi.org/10.5173/ceju.2013.01.art29
- [20] Parisi GF, Portale A, Papale M, Tardino L, Rotolo N, Licari A, Leonardi S. Successful treatment with omalizumab of allergic bronchopulmonary aspergillosis in patients with cystic fibrosis: Case reports and literature review. Journal of Allergy and Clinical Immunology: In Practice 2019; 7(5): 1636-1638. https://doi.org/10.1016/j.jaip.2019.01.056
- [21] Lyadov KV, Koneva ES, Polushkin VG, Sultanov EYu, Lukashin MA. Randomised controlled study on pulmonary rehabilitation in COVID-19 patients with pneumonia. Pulmonologiya 2020; 30(5): 569-576. https://doi.org/10.18093/0869-0189-2020-30-5-569-576
- [22] Shulyak A, Banyra O. Radical or simple nephrectomy in localised renal cell carcinoma: What is a choice? Central European Journal of Urology 2011; 64(3): 152-155. https://doi.org/10.5173/ceju.2011.03.art12
- [23] Bongiovanni A, Parisi GF, Scuderi MG, Licari A, Brambilla I, Marseglia GL, Leonardi S. Gastroesophageal reflux and respiratory diseases: Does a real link exist? Minerva Pediatrica 2019; 71(6): 515-523. https://doi.org/10.23736/S0026-4946.19.05531-2
- [24] Giallongo A, Parisi GF, Licari A, Pulvirenti G, Cuppari C, Salpietro C, Marseglia GL, Leonardi, S. Novel therapeutic targets for allergic airway disease in children. Drugs in Context 2019; 8: 212590. https://doi.org/10.7573/dic.212590
- [25] Parisi GF, Leonardi S, Ciprandi G, Corsico A, Licari A, Miraglia Del Giudice M, Peroni D, Salpietro C, Marseglia GL. Cetirizine use in childhood: An update of a friendly 30-year drug. Clinical and Molecular Allergy 2020; 18(1): 1-6. https://doi.org/10.1186/s12948-020-00118-5
- [26] Koneva ES, Omelchuk NN, Kuzmenko L, Kosova I, Afanasyeva NV. Introduction of electronic cancer patient registries. Prensa Medica Argentina 2019; 105(9): 546-555.
- [27] Shulyak A, Gorpynchenko I, Drannik G, Poroshina T, Savchenko V, Nurimanov K. The effectiveness of the combination of rectal electrostimulation and an antidepressant in the treatment of chronic abacterial prostatitis. Central European Journal of Urology 2019; 72(1): 66-70.
- [28] Parisi GF, Leonardi S, Ciprandi G, Corsico A, Licari A, Miraglia del Giudice M, Peroni D, Salpietro C, Marseglia GL. Antihistamines in children and adolescents: A practical update. Allergologia et Immunopathologia 2020; 48(6): 753-762. https://doi.org/10.1016/j.aller.2020.02.005
- [29] Banyra O, Sheremeta R, Shulyak A. Strangulation of the penis: Two case reports. Central European Journal of Urology 2013; 66(2): 242-245. https://doi.org/10.5173/ceju.2013.04.art2

- [30] Baïmyshev ES, Abzaliev KB, Karibekov TS. Prevention of postoperative eventration. Vestnik Khirurgii Imeni I.I. Grekova 1988; 141(7): 119-120.
- [31] Pappalardo MG, Parisi GF, Tardino L, Savasta S, Brambilla I, Marseglia GL, Licari A, Leonardi S. Measurement of nitric oxide and assessment of airway diseases in children: An update. Minerva Pediatrica 2019; 71(6): 524-532. https://doi.org/10.23736/S0026-4946.19.05513-0
- [32] Tuleutaev R, Oshakbayev A, Abzaliyev K, Rakishev B, Abzaliyeva S. Results of the thoracoscopic radiofrequency epicardial ablation with a bipolar electrode during longstanding persistent form of atrial fibrillation. E3S Web of Conferences 2020; 159: 08007. https://doi.org/10.1051/e3sconf/202015908007
- [33] Koneva ES, Lyadov KV, Shapovalenko TV, Zhukova EV, Polushkin VG. The hardware techniques for the restoration of the gait stereotype in the patients following total hip replacement: The personalised approach. Voprosy Kurortologii, Fizioterapii, i Lechebnoi Fizicheskoi Kultury 2018; 95(1): 26-34. https://doi.org/10.17116/kurort201895126-34
- [34] Parisi GF, Cutello S, Di Dio G, Rotolo N, La Rosa M, Leonardi S. Phenotypic expression of the p.Leu1077Pro CFTR mutation in Sicilian cystic fibrosis patients. BMC Research Notes 2013; 6(1): 461. https://doi.org/10.1186/1756-0500-6-461
- [35] Maksymova NYu, Maksymov MV. Dynamics of reflection functioning at different age stages. Actual Problems of Theoretical and Consultative Psychology 2021: 2: 63-66
- [36] Portnova TV. Classification of the theatrical exposition and methodological approaches to the study of choreographic exhibitions (On materials of theatrical museums of the world). Opcion 2018; 34(85): 687-697.
- [37] Zashchirinskaia OV. Specific features of the comprehension of texts and story pictures by adolescents with intellectual disturbances. Acta Neuropsychologica 2020; 18(2): 221-231. https://doi.org/10.5604/01.3001.0014.1404
- [38] Vorobets D, Banyra O, Stroy A, Shulyak A. Our experience in the treatment of priapism. Central European Journal of Urology 2011; 64(2): 80-83. https://doi.org/10.5173/ceju.2011.02.art6
- [39] Romashin OV, Liadov KV, Makarova MR, Koneva ES, Preobrazhenskii VI, Chudimov VF. The development of physical education as a basic instrument of rehabilitative treatment, remedial medicine, and goal-oriented health promotion for the benefit of man. Voprosy kurortologii, fizioterapii, i lechebnoĭ fizicheskoĭ kultury 2013; 1: 39-43.
- [40] Koneva S. The effectiveness of gait rehabilitation in the patients following endoprosthetic hip replacement by means of the biofeedback-based hardware video reconstruction of the walking stereotype. Voprosy kurortologii, fizioterapii, i lechebnoi fizicheskoi kultury 2015; 92(6): 23-29. https://doi.org/10.17116/kurort2015623-29
- [41] Koneva ES, Lyadov KV, Shapovalenko TV, Zhukova EV, Polushkin VG. The hardware techniques for the restoration of the gait stereotype in the patients following total hip replacement: The personalised approach. Voprosy Kurortologii, Fizioterapii, i Lechebnoĭ Fizicheskoĭ Kultury 2018; 95(1): 26-34. https://doi.org/10.17116/kurort201895126-34
- [42] Trofimov A, Drobot O, Kokarieva A, Maksymova N, Lovochkina A, Kozytska I. The influence of management style and emotional intelligence on the formation of employees' commitment and loyalty. Humanities and Social Sciences Reviews 2019; 7(5): 393-404. https://doi.org/10.18510/hssr.2019.7544
- [43] Zinchenko AS. Project-focused personnel management approach of higher educational institutions. Asia Life Sciences 2020; 22(2): 243-256.

- [44] Portnova TV. Synthesised nature of fine arts and ballet theater: System analysis of genre development. European Journal of Science and Theology 2018; 14(5): 189-200.
- [45] Koneva ES. The experience with the comprehensive rehabilitation of the elderly patients presenting with a concurrent pathology following the surgical intervention for the total endoprosthetics of the knee joint. Voprosy Kurortologii, Fizioterapii, i Lechebnoĭ Fizicheskoĭ Kultury 2014; 3: 45-53.
- [46] Galyaveeva AR, Vasileva US, Khaerzamanova AI, Rasin AN, Kislyy P, Allanina LM, Koneva ES. The problem of increasing number of myocardial infarction deaths in densely populated cities. International Journal of Pharmaceutical Research 2020; 12(4): 806-813. https://doi.org/10.31838/ijpr/2020.12.04.139
- [47] Zashchirinskaia O, Nikolaeva E, Udo H. Features of the perception and understanding of emoji by adolescents with different levels of intelligence. Mediterranean Journal of Clinical Psychology 2020; 8(2): 1-17.
- [48] Kartushina NV. Application of total quality management mechanism for students of higher education institutions. Asia Life Sciences 2020; 22(2): 273-286.
- [49] Romashin OV, Liadov KV, Makarova MR, Koneva ES, Preobrazhenskii VI, Chudimov VF. The development of physical education as a basic instrument of rehabilitative treatment, remedial medicine, and goal-oriented health promotion for the benefit of man. Voprosy Kurortologii, Fizioterapii, i Lechebnoi Fizicheskoi Kultury 2013; 1: 39-43.
- [50] Baimbetov AK, Abzaliev KB, Jukenova AM, Bizhanov KA, Bairamov BA, Ualiyeva AY. The efficacy and safety of cryoballoon catheter ablation in patients with paroxysmal atrial fibrillation. Irish Journal of Medical Science 2021. https://doi.org/10.1007/s11845-021-02560-z
- [51] Mullen A, Butrous G, Abzaliev K. Retrospective efficacy analysis of acute vasoreactive test as criteria for surgery in children with inborn left-to-right blood shunting and pulmonary arterial hypertension. Russian Journal of Cardiology 2018; 23(7): 41-46. https://doi.org/10.15829/1560-4071-2018-7-41-46
- [52] Portnova TV. Self-determination of personality of creative beginning in choreographic context. Space and Culture, India 2019; 7(2): 143-158. https://doi.org/10.20896/saci.v7i2.452
- [53] Oliynyk OV, Pereviznyk BO, Yemiashev OV, Shlifirchyk A. The effectiveness of corticosteroid usage in complex therapy for severe sepsis and acute respiratory distress syndrome in cases of severe traumatic brain injury. Advances in Clinical and Experimental Medicine 2016; 25(6): 1223-1226. https://doi.org/10.17219/acem/61013
- [54] Oliynyk O, Barg W, Slifirczyk A, Oliynyk Y, Gurianov V, Rorat M. Efficacy of tocilizumab therapy in different subtypes of covid-19 cytokine storm syndrome. Viruses 2021; 13(6): 1067. https://doi.org/10.3390/v13061067
- [55] Lyadov KV, Koneva ES, Polushkin VG, Sultanov EYu, Lukashin MA. Randomised controlled study on pulmonary rehabilitation in COVID-19 patients with pneumonia. Pulmonologiya 2020; 30(5): 569-576. https://doi.org/10.18093/0869-0189-2020-30-5-569-576
- [56] Chianchana C, Wichian SN. Developing an operational approach to educational quality assurance in colleges under the office of the vocational education commission in Thailand. Obrazovanie i Nauka 2020; 22(9): 67-85. https://doi.org/10.17853/1994-5639-2020-9-67-85
- [57] Oliynyk OV, Rorat M, Barg W. Oxygen metabolism markers as predictors of mortality in severe COVID-19. International Journal of Infectious Diseases 2021; 103: 452-456. https://doi.org/10.1016/j.ijid.2020.12.012

- [58] Baimbetov AK, Bizhanov KA, Abzaliyev KB, Bairamov BA, Yakupova I. Prediction of arrhythmia recurrence after atrial fibrillation ablation in patients with normal anatomy of the left atrium. International Journal of Clinical Practice 2021; 75(6): e14083. https://doi.org/10.1111/jicp.14083
- [59] Seidinova A, Ishigov I, Peyami C, Seidinov S. Effectiveness of pump insulin therapy in the treatment of type 2 diabetes mellitus (review). Georgian Medical News 2018; 284: 51-55.
- [60] Koneva ES. The effectiveness of gait rehabilitation in the patients following endoprosthetic hip replacement by means of the biofeedback-based hardware video reconstruction of the walking stereotype. Voprosy Kurortologii, Fizioterapii, i Lechebnoi Fizicheskoi Kultury 2015; 92(6): 23-29. https://doi.org/10.17116/kurort2015623-29
- [61] Baĭmyshev ES, Abzaliev KB. A rare form of internal hernia. Vestnik khirurgii imeni I. I. Grekova 1986; 137(9): 81-82.
- [62] Portnova T. Information technologies in art monuments educational management and the new cultural environment for art historian. TEM Journal 2019; 8(1): 189-194.
- [63] Romanov EV. Institutional traps in the scientific and educational sphere: Nature and mechanism of elimination. Obrazovanie i Nauka 2020; 22(9): 107-147. https://doi.org/10.17853/1994-5639-2020-9-107-147

- [64] Chernookov AI, Bozhedomov AYu, Atayan AA, Belyx EN, Sylchuk ES, Khachatryan EO. New biomarkers of acute mesenteric ischemia. Novosti Khirurgii 2018; 26(3): 358-365. https://doi.org/10.18484/2305-0047.2018.3.358
- [65] Koneva ES, Liadov KV, Shapovalenko TV. Comprehensive programs and evaluation of the efficacy of early postoperative rehabilitation in the patients following total endoprosthetics of the lower extremity joints. Voprosy Kurortologii, Fizioterapii, i Lechebnoĭ Fizicheskoĭ Kultury 2013; 4: 31-34.
- [66] Tlemissov A, Zhunissov B, Buleshov M, Buleshova A, Seidinov S, Sultanbekov K, Talgatbek A, Bulegenov T, Myssayev A, Grjibovski AM. Does the number of injuries among elderly people in Kazakhstan increase during Ramadan? Public Health 2017; 142: 70-72. https://doi.org/10.1016/j.puhe.2016.10.012
- [67] Portnova TV. Art technologisation in the context of theatrical science development. Astra Salvensis 2020; 1: 701-729.
- [68] Slowik J, Peskova M, Shatunova OV, Bartus E. The competencies of young teachers in the education of pupils with special educational needs. Obrazovanie i Nauka 2021; 22(10): 139-160. https://doi.org/10.17853/1994-5639-2020-10-139-160

Received on 18-06-2021 Accepted on 29-11-2021 Published on 08-12-2021

https://doi.org/10.6000/2292-2598.2021.09.06.9