sciendo
DOI: 10.2478/rae-2023-0016 Review of Artistic Education no. 25 2023 113 - 119

2. PERFORMANCE IN THE ARTISTIC CAREER SUPPORTED BY THE PRACTICE OF INTENSE PHYSICAL EXERCISES

Ana - Cristina Leșe,[62] **Raluca Minea,**[63] **Iarina -Teodora Dumitraș**[64]

Abstract: *Performance in the artistic career is achieved through a continuous process of learning, education and study, supported and enhanced by an unseen, unnoticed, even often ignored factor like sport. Through this study we can demonstrate that the practice of intense specific type of physical exercises or individual sports can influence and support performance in the visual arts field. Our study we have been carrying out in the past 2 years for a number of 350 student artists who practised a type of sport or a physical activity, including physical education courses in their university curriculum, shows that they experienced better artistic performance in a percentage of 60% compared to those students who practiced less physical exercises. It is well known that training, in a variety of forms, allows increasing the mass of specific group of muscles, but also increasing endurance for longer periods of time. Also, regular physical activity causes an increase in the vascular caliber, which will lead to better oxygenation and a better nutrient supply to the brain. The brain is the most glucose-demanding organ in the body and, at the same time, it functions only in aerobic metabolism. Thus, the increase of vascular caliber through regular sports will determine an increased intracranial pressure, respectively a higher oxygen and glucose consumption. Constant practice of physical exercises will significantly reduce the risk of mental illnesses, and will improve memory, by preventing a series of brain disorders.*
Key words: *art, physical exercises, performance*

1. The effects of physical exercises on mental processes

The nervous system has the ability to adapt both to changes in the environment and also to the requirements that a person has from his/her own body. The adaptability of the human being to different tasks that must be performed throughout life is based on the phenomenon of neuroplasticity, defined as follows:".. the physiological brain changes that occur as a result of our interaction with the environment. From the moment our brain begins to develop in the womb until the day we die, the connections between our brain cells reorganize in response to the changes that are necessary. This dynamic process allows us to learn and adapt to the different experiences we have."[65] For example, professional musicians's somatosensory and the auditory cortex is different from that of unprofessional ones.

Thanks to this phenomenon, people can improve their skills, both through their daily effort at work, and also by practicing some habits that facilitate this process (such as physical exercises). In recent decades, studies have proven that people who do physical activities improve their academic and cognitive performance, compared to people who have a sedentary lifestyle. Even more, constant practice of physical exercises maintain the cognitive abilities developed in the first part of life. In

[62] Associate Professor PhD., "George Enescu" National University of Arts from Iași, România, email: analese2000@yahoo.com

[63] Lecturer PhD., "George Enescu" National University of Arts from Iași, România, email: ralucaminea.74@gmail.com

[64] Student, „Grigore T. Popa" University of Medicine and Pharmacy from Iași, România, iarina.dt@gmail.com

[65] Dr. Celeste Campbell, https://medanima.ro/neuroplasticitatea-importanta-sanatatea-mintala/psihiatrie-psihologie-iasi

literature were recorded several imaging studies performed on groups of subjects who practiced sports as a routine compared to those who did it occasionally or not at all, proving that people who do physical exercises twice a week show a greater gray matter thickness in the frontal lobe compared to the general population.

This aspect makes reference to the improvement of memory, the ease of expressing emotions, the control of impulses, the development of the mechanism of thinking, language, creativity, the ability to solve situations with a certain degree of difficulty, etc., aspects that are particularly important in an art career. Interventional studies have proven that people who do one hour of aerobic exercises (endurance exercise) improved their executive functions, memory, attention and processing speed compared to people who did a non-endurance physical effort session or which did not subject their body to effort. Also, aerobics contributes decisively to the increase of visual and auditory attention, to the development of motor control and thinking mechanisms in space, as well as the speed of thinking. Current theories state that, depending on the type of physical exercise performed, a certain area of the brain is stimulated more than other, but further research is needed to certify this fact. Recent studies show that resistance training may also improve cognition.

2. The study in comparative methods and recorded data

This theoretical framework regarding the important influence of sports on artistic performance offers a presentation and a selective analysis of this kind of evidence, followed by a summary of the benefits brought in social and professional terms. There has been made a recording of the frequency of student artists at physical sports activities within the university curriculum, but also in particular, over a period of two years, taking into account a number of 350 subjects, students of the National University of Arts "G . Enescu" from Iași (200 students from the Visual Arts department and 150 students from the Music department), among them being a number of 100 students from the Republic of Moldova, enrolled in the courses of the National University of Arts "G . Enescu" Iași. Our recordings of the frequency of physical sports activities and the questioning about the practice of physical exercises in particular are complemented by the testimonies of established artists who practice sports regularly .

The theoretical data provided by experts in the field of medicine, sport and psychology reinforce the idea that the benefits of exercise for health are not limited to physical health but also incorporate mental and individual performance components of the human being in daily activities. We focused our attention on the factors that determined the motivation for more frequent participation in physical activities through the lens of the researches carried out by experts on the persuasive methods. Regarding the connection between sport, mental health and creative performance, the existence of a conceptual model hasn’t been proved yet, but the benefits and contribution brought by sports in an artist’s life and carreer cannot be excluded. Performance in art has two main components - talent and work. An artist's talent can be native or acquired through continuous work. There have been published studies which reveal a systematic review of efficacy in artistic performance. It’s recommendable for student artists to practice sport in their free time or within the activities organized by the University in order to improve their

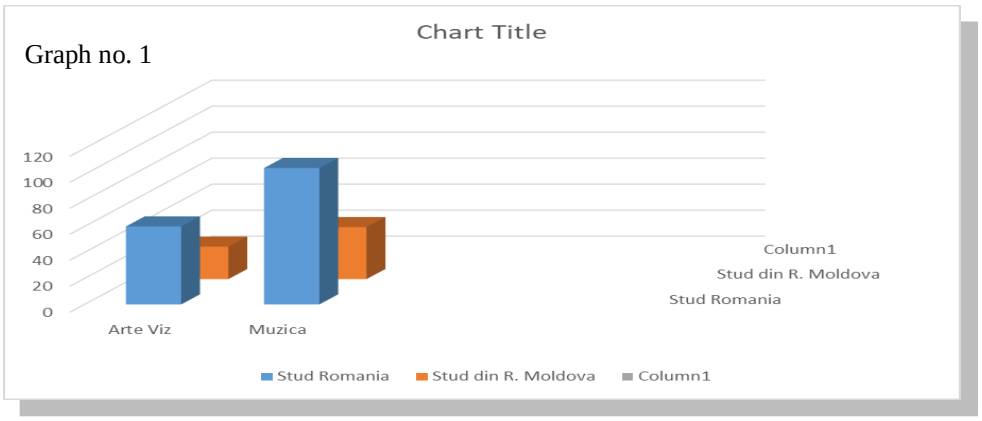
physical health in aspects such as obesity or correcting problems (especially the spine problems) acquired as a result of their vicious positions in their profession, but also in aspects such as mental, social and creative health.

3. Methods

1. Recording the frequent attendance of student artists in the Physical Education course as well as in private.
2. Observing the motor level of physical qualities and also the emotional involvement in these activities.
3. The survey
4. Recording professional performances (from posters, concerts, jobs)
5. Documentation from the specialized medical and sports studies
6. Adopting the definitions of sport that refer to - "a human activity for acquiring fine motor skills and developing mental abilities"[66] and health - "a state of complete physical, mental and social well-being and not just the absence of disease and of infirmity"[67].

4. Results

In this study took part some students from the Music and Visual Arts departments who practiced the physical activities included in the university curriculum (one hour per week) and the training included in the "Sports Circle" program (two hours per week). The highest attendance was registered by the students from the Music department (70% - 105 students out of 150, and among them, 40 students from the Republic of Moldova, who proved the best motor qualities). Students from the Visual Arts department recorded a percentage of 30% - 60 students out of 200 with good attendance at this kind of activities, among them being 25 students from the Republic of Moldova (it's well known the educational and sports performance of the Republic of Moldova).

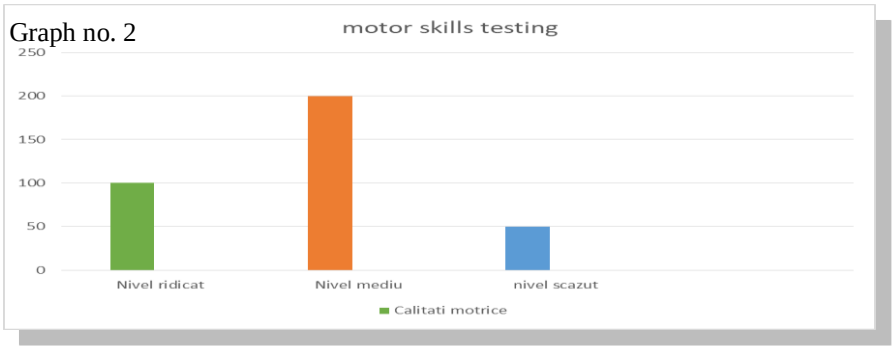


Graph no. 1

The students' motor level was also recorded in a graph, after taking the sports tests (as for strength, resistance force, speed and skill) highlighting: 140 students with a high-level motor skills, 160 students with an average level and 50 students with a low level students.

[66] G. Cârstea, „Educaţia fizică–fundamente teoretice şi metodice", Casa de editură Petru Maior, Bucureşti, 1999
[67] World Health Organisation: Constitution of the World Health Organisation. 2006, Available from: http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf

Graph no. 2



The survey includes the following points:

1. How often do you practice sports:

a. once or twice per week;

b. more than twice a week;

c. once a month;

d. never

2. What motivates you:

a. the compulsory discipline in the university curriculum;

b. the need for physical activity;

c. habit;

3. How should be structured the training sessions:

a. intense level

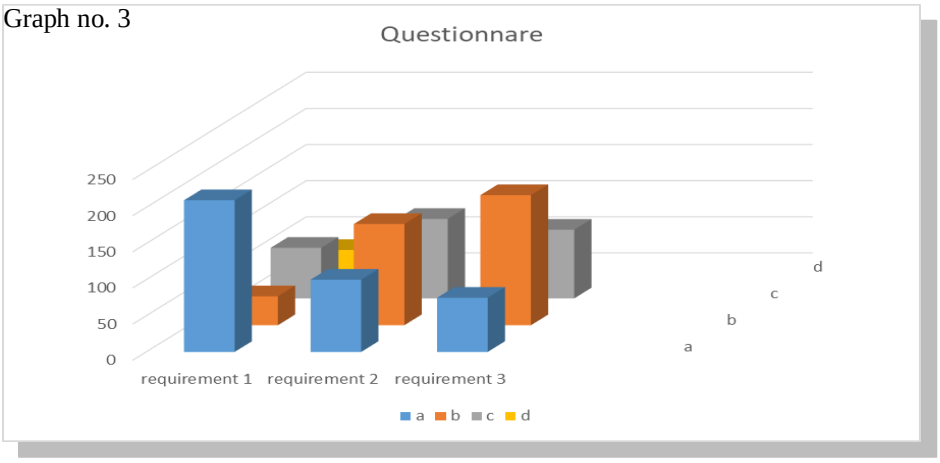
b. medium level

c. low level

The results show the following:

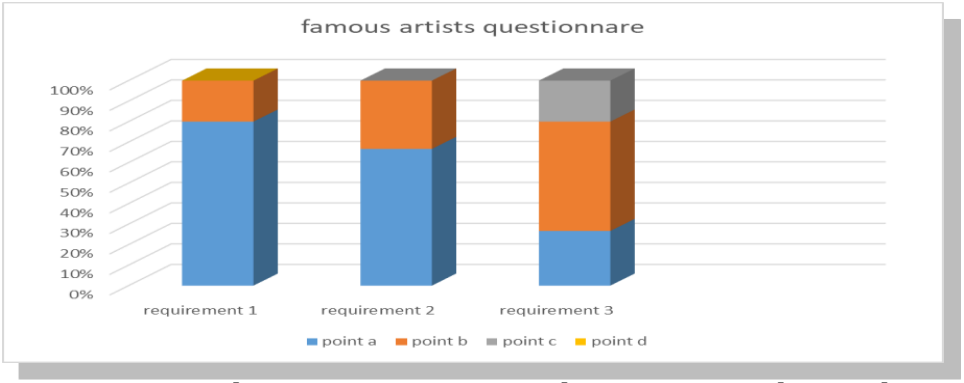
- Requirement 1: 210 of the students checked point a.; 40 students, point b; 70 students checked point c and 30 students checked point d.
- Requirement 2: 100 students - point a; 140 students – point b; 110 students – point c.
- Requirement 3: 75 students – point a; 180 students – point b; 95 students – point c.

Graph no. 3



15 established artists (like musicians and visual artists) took part in this survey and the following results were recorded:

Graph no. 4



- Requirement 1: 12 subjects – point a.; 3 subjects – point b; 0 subjects point c; 0 subjects – point d.
- Requirement 2: 10 subjects – point b; 5 subjects – point c.
- Requirement 3: 4 subjects – point a; 8 subjects – point b; 3 subjects – point c.

The average of students who recorded good and very good results in this study is 185 out of 350 students. The recording of professional performances (from posters, concerts, jobs) showed that ***150 students***, out of the ***185 students***, who participated in sports activities more often and showed developed motor skills, stood out through scholarships and participation in concerts, exhibitions, shows, being "headlining". Also, all of these students were invited to collaborate with specialized companies due to their creative capacity, efficiency and resistance to effort.

5. Recommended methods for a physical activity appropriate for an artistic profile

- Sports activities for the development of a good general physical condition. The most recommended activity of this kind is fitness or aerobic gymnastics. Fitness should include elements of stretching, dancing, swimming, martial arts and exercises to develop all basic motor skills – strength, speed, endurance, dexterity. Aerobic exercises increase the amount of oxygen delivered to the muscles and allow them to function longer. Any activity that raises your heart rate for a longer period of time will ultimately improve your physical condition.
- Sports activities for the development of qualities such as: coordination, balance, attention, strategic thinking. Individual sports games (like tennis court, badminton) or team sports games (like volleyball, basketball) are mostly found here. Also, dance includes many elements of balance and motor memory (memory of movements).

In order to have a health benefit, a moderate effort is indicated, in which the heart rate is between 50% and 70% of the maximum possible value. A simple way to monitor your cadence training is as follows:

- if it’s not possible to speak during the physical activities, then it’s too intense;
- if you can sing during the physical activities, it’s not intense enough.

The recommendation is to practice these types of physical activities for at least 30 minutes every day or two to three times a week.

6. Conclusions

In achieving artistic performance, which involves a continuous process of

learning, education and study, the role of sports activity is an important and real one. Although there isn't any conceptual model in the creative performance-sports-mental health relationship, the benefits and contribution brought by the practice of sports activity at a sustainable pace are indisputable and proved in this study through the conclusions of some published works on this topic and through my own investigations. We are trying to make people conscious of the importance of sport in our daily life, in an ignorant society.

References

1. Angevaren, M.; Aufdemkampe, G.; Verhaar, H.J.; Aleman, A.; Vanhees, L., "Physical activity and enhanced fitness to improve cognitive function in older people without known cognitive impairment" Cochrane Database Syst. Rev. (3) (2008) CD005381
2. Cârstea, G., (1999) „ Educaţia fizică–fundamente teoretice şi metodice", Casa de editură Petru Maior, Bucureşti
3. World Health Organisation: Constitution of the World Health Organisation. 2006, Available from: http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf
4. Hadlich, R, (2017) „ Proper and incorrect body posture in students from music schools" , Journal of Education, Health and Sport, - apcz.umk.pl.
5. Hawkins, H.L.; Kramer, A.F.; Capaldi , D.; (1992 „Aging, exercise, and attention", Psychol. Aging, 7), pp. 643-653
6. Hötting, Kirsten; Röder, Brigitte, (2013) „Beneficial effects of physical exercise on neuroplasticity and cognition", Neuroscience & Biobehavioral Reviews, Volume 37, Issue 9, Part B, 2013, Pages 2243-2257, ISSN 0149-7634, https://doi.org/10.1016/j.neubiorev..04.005
(https://www.sciencedirect.com/science/article/pii/S0149763413001012)
7. Leșe, A.C., (2016) „ Importance of Physical Exercise in Living Arrangements Artist*"*, Review of Artistic Education, no. 11-12, 2016, 133-138 DOI: 10.1515/rae-2016-0016
8. Leşe, Ana-Cristina; Minea, Raluca, (2016) „ The Artists' Posture during Restoration Work. Implications to Health and Correction through Exercise*",* in The European Proceedings of Social and Behavioral Sciences, EpSBS, eISSN: 2357-1330, WLC
9. Liu-Ambrose, T.; Nagamatsu, L.S.; Voss, M.W.; Khan, K.M.; Handy, T.C., (2012) „Resistance training and functional plasticity of the aging brain: a 12-month randomized controlled trial" Neurobiol. Aging, 33, pp. 1690-1698
10. Moul, J.L.; Goldman, B.; Warren, B., (1995) „ Physical activity and cognitive performance in the older population", Psychol. Aging, 4, pp. 307-320
11. Nasev, L., (2012) „ Music and movement", International Journal of Kinesiology and Other Related eprints. ugd.edu.mk.
12. Richards, M.; Hardy, R.; Wadsworth, M.E., (2003) „Does active leisure protect cognition? Evidence from a national birth cohort", Soc. Sci. Med., 56 pp. 785-792
13. Rovio, S.; Spulber, G.; Nieminen, L.J.; Niskanen, E.; Winblad, B.; Tuomilehto, J.; Nissinen, A.; Soininen, H.; Kivipelto, M., (2010) „The effect of midlife physical

activity on structural brain changes in the elderly", Neurobiol. Aging, 31, pp. 1927-1936
14. Soligard, T.; Schwellnus, M.; Alonso, J.M.; Bahr, R.; Clarsen, B.; Dijkstra, H.P.; Gabbett, T.; Gleeson, M.; Hagglund, M.; Hutchinson, M.R., et al., (2016) „ How much is too much?" (Part 1) International Olympic Committee consensus statement on load in sport and risk of injury. Br. J. Sports Med.; 50:1030–1041. doi: 10.1136/bjsports-2016-096581. [PubMed] [CrossRef] [Google Scholar]
15. Stojadinović, A.; Zdravković, Danijela; Zdravković, Vesna,(2021) „ Physical Education And Music Education in the Context of the Possibility of Using the Integrated Learning Approach as a Reflection Of Modern Society", Facta Universitatis Series Physical Education and Sport, DOI: 10.22190/FUPES200609060S
16. Stroth, S.; Hille, K. ; Spitzer, M.; Reinhardt , R., (2009) „ Aerobic endurance exercise benefits memory and affect in young adults", Neuropsychol. Rehabil., 19, pp. 223-243
17. Şavga, L., (2013) „ Quality assurance of higher education in terms of the national education performance and competitiveness growth", Economy Transdisciplinarity Cognition, - ibn.idsi.md.
18. Voelcker-Rehage, C.; Godde, B.; Staudinger, U.M.; (2011) „ Cardiovascular and coordination training differentially improve cognitive performance and neural processing in older adults", Front. Hum. Neurosci., 5, p. 26
19. Zimmermann-Sloutskis, D; Wanner, M; Zimmermann, E; Martin, B., (2010) „Physical activity levels and determinants of change in young adults: a longitudinal panel study", Int J Behav Nutr Phys Act., 7: 2-10.1186/1479-5868-7-2
20. https://medanima.ro/neuroplasticitatea-importanta-sanatatea-mintala/psihiatrie-psihologie-iasi
21. Publich Health Agency of Sweden . Vad är Fysisk Aktivitet? [What Is Physical Activity?] Volume 2016 Publich Health Agency of Sweden; Solna, Sweden: [Google Scholar]
22. US Department of Health and Human Services, (2008) „ Physical activity guidelines advisory Committee report", http://www.health.gov/paguidelines/report/
23. Australian Bureau of Statistics, (2008) „ Defining sport and physical activity, a conceptual model", Australian Bureau of Statistics , Canberra, (Google Scholar)