CORRELATIONS BETWEEN PHYSICAL EDUCATION TRAINING IN THE FINAL YEARS OF HIGH-SCHOOL AND PHYSICAL EDUCATION TRAINING AT UNIVERSITY

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ABSTRACT

Physical education is a purposeful process of complete physical formation of a person, in accordance with the requirements of a healthy lifestyle. Our aims are to study the students' attitudes towards the organization, the contents, and the results achieved in the process of physical education during the final years of high school and the opportunities for further continuation and development of these skills and knowledge at higher education institutions. Methods of the experiment include six initial tests with students from the Medical university – Sofia, aiming to assess the strength of their upper and lower limbs and a survey with 15 questions divided into two sections regarding the quantity, organization, the content and the results achieved in the process of high-school sports education and the attitudes of students towards this process at university. The results showed that the fitness levels of survey participants were relatively high considering the fact that for the most part the respondents practiced a sport outside the regular high-school program or were competitors. The teaching process of physical education in the high school system relies on fairly good facilities and physical education facilities at the university level are even better. Student motivation to participate in sports classes in high school provide a negative trend, other claim that they enjoyed spending time with classmates while really small percent participated in order to develop their motoric skills and habits. A similar trend can be observed at the university level, as nearly half of the students participate in order to fulfill their obligations towards the horarium required, and very low percent attend because they want to meet new colleagues.

Key words: *physical education, teaching process, correlation, high school education, higher education, university, students, activity*

INTRODUCTION

Physical education training at the university level is to a large extent a continuation of the training conducted in the final years of high school education, the training activities of sports clubs, and the family influence. In reality, however, the level of each individual's development and the specifics and achievements in this area can be mostly attributed to the high school education system with its respective structure, content, and methodology.

This system aims to develop the future university students regarding their personality traits, acquired knowledge, skills and habits, preferences and ambitions. This system nurtures a need for individual physical development, physical activity, and technical skills. These goals subsequently carry to higher education institutions and become the driving force behind students' ambitions for growth and success in this area. It is believed that the latter is to a great extent a function of the former.

The genetically predetermined pattern and tendency of the age-related development of motor abi-

lities does not change, but the active pedagogical influence helps in their development at a higher level. Therefore, it is important to make full use of the methods and means of physical education and sport included in the compulsory preparation for students. (Borisov, 2014)

Physical education is a purposeful process of complete physical formation of a person, in accordance with the requirements of a healthy lifestyle. (Rachev, Margaritov, 1994).

Goals of the survey: The survey aims to study the students' attitudes towards the organization, the contents, and the results achieved in the process of physical education during the final years of high school and the opportunities for further continuation and development of these skills and knowledge at higher education institutions.

Survey tasks:

1. Determining the major sports that students took during the final high school years and the

attitudes towards them.

2. Assessment of the opportunities that high-school education provided for developing the technical skills in the respective sports considering the training conditions provided by the school and the teacher's level of instruction.
3. Students' self-assessment of their own sports class participation in high school and the results achieved.
4. Motivation for active participation and further improvement in sports classes at higher education institutions.

METHODOLOGY

Study group: The group consisted of first-year students at the Medical University of Sofia of the two genders who participated in mandatory group training classes of physical education for the duration of two semesters in 2018-2019. The group included 66 female and 14 male students.

Table 1. Average values of the initial test results for males and females. (Brogli, Petkova, 1988)

	Right-hand strength	Left-hand strength	Number of push-ups per 30 seconds	Number of sit-ups per 30	Standing long jump	Grade
Female	28.38 kg	26.90 kg	31.65 reps.	33.10 reps.	159.40 cm	Very good 5
Male	48.60 kg	45.80 kg	35.70 reps.	32.30 reps.	196.2 cm	Very good 5

In addition, we approached the study group by means of a survey regarding the quantity, organization, the content and the results achieved in the process of high-school sports education and the attitudes of students towards this process at university. The survey included 15 questions and was divided into two sections. The first section focused on physical education in the final years of high school, and the second one focused on the motivation of the students to practice sports during their education at the Medical University of Sofia.

Answers to questions regarding the following were analyzed:

1. *The current state and the results from high school physical education:*
 - *Quantity of instruction* - number of classes per week and percentage of classes that were attended by the students.
 - *Contents of physical education classes* - types of sports studied and sport activities performed. Practicing a sport outside school.
 - *Facilities and motivation* to participate in the learning process regarding physical education in school.
 - *Results achieved* - levels of physical indicators

Object of the survey: The teaching process of physical education in high schools and its connection to the physical education teaching process at the Medical University of Sofia.

Objectives of the survey: To improve the methodology organization and contents of Physical Education at the Medical University of Sofia as further continuation of the high school education process.

Survey methodology: During the first semester, first-year students were subjected to initial tests aiming to assess the strength of their upper and lower limbs. (Bozhkova, 2012) The tests included:

- Right-hand strength - measured by means of an electronic dynamometer
- Left-hand strength - measured by means of an electronic dynamometer
- Number of push-ups per 30 seconds
- Number of sit-ups per 30 seconds
- Standing long jump (two tries)

achieved regarding the existing control norms and technical skills for the studied sports. Assessment of teaching and final grade in physical education in secondary education.

2. *The current state and the results of physical education at the higher education level:*

- Acquiring theoretical and practical knowledge and skills on behalf of the students during physical education classes at higher education institutions.
- Student motivation to participate in the learning process of physical education and assessment of facilities and teaching.
- Whether or not the grade for physical education classes adequately reflects the students' results.
- Student attitudes towards the contents and the methodology of teaching at the university level.

ANALYSIS AND RESULTS

Physical Education as a curriculum subject contributes greatly to the levels of theoretical and practical preparation, which in turn significantly affect the final outcomes of university education and the later realization of students. To a large extent, it reflects the system and the methods of student preparation in the final years of high-school education.

The survey results indicated the following:

1. There is a high attendance rate of physical education classes, 84%, and schools focus on team sports predominantly (basketball, volleyball, and soccer above 63%) due to the larger class size. At universities, physical education provides a variety of activities and includes more individual sports, such as tennis, skiing, kayaking, etc. University education also provides an opportunity, for those who practice actively, to join teams or train outside of university, which makes the physical education process more attractive to the students.
2. The fitness levels of survey participants were relatively high considering the fact that for the most part the respondents practiced a sport outside the regular high-school program (50%) or were competitors (17%).
3. The teaching process of physical education in the high school system relies on fairly good facilities (52%) and physical education facilities at the university level are even better (70%). This results from the universities' resources to rent, build, and maintain UpToDate sports facilities that comply with the specific requirements for the disciplines offered.
4. The survey respondents rate teaching both at high schools and at universities very highly (above 79% and 82% respectively) and express their satisfaction with attending physical education classes 85-91%. This is a good indicator of the quality of teaching at educational institutions in Bulgaria.
5. Answers regarding the student motivation to participate in sports classes in high school provide a negative trend, as 49% claim that they enjoyed spending time with classmates while only 28% participated in order to develop their motoric skills and habits. A similar trend can be observed at the university level, as 43% of the students participate in order to fulfill their obligations towards the horarium required, and 15% attend because they want to meet new colleagues. This indicates a shift of the focus of physical education classes.
6. The sports grade earned by 89% of the survey participants in high school is "excellent", while the results from the initial Eurofit fitness test from the first semester of university indicate a "very good" grade, which does not correspond to the grade from high school.

Table 2. *Student attitudes towards the organization, the contents*

Student attitudes towards the organization, the contents, and the results achieved in the process of physical education training in the final years of high school and the opportunities to continue and further develop this knowledge and skill at university		
HIGH SCHOOL PHYSICAL EDUCATION		
Questions	Answers	Results
Age groups of respondents	19 years	74%
	20 years	21%
	21 years	5%
Gender distribution	Female	82%
	Male	18%
Number of academic hours of physical education per week	1 academic hour	9%
	2 academic hours	67%
	more than 2 academic hours	24%
Attendance of physical education classes at high school	above 75%	57%
	never missed a class of physical education	27%
	from 25% to 50%	13%
	below 25%	3%
Sports disciplines that the students practiced at high school	basketball	20%
	volleyball	47%
	track and field	13%
	table tennis	9%
	soccer	10%
	other sports	1%
Additional physical training taken by students	Yes, I was a competitor	17%
	No, I focused on my studies	33%
	I practiced for pleasure	50%

Student motivation to participate in physical education classes in high school	I enjoyed being with my classmates	49%
	I was interested in the sport	12%
	I wanted to raise my grade	11%
	I wanted to develop my motoric skills and habits	28%
Facilities and conditions for physical education at high school	Good, but could be further improved	52%
	Very good conditions	24%
	Very bad conditions	4%
	Excellent conditions	20%
Attitudes towards physical education classes in high school	I am pleased, but there were not enough classes in order to consolidate my skills and knowledge	55%
	I am very pleased; I mastered the necessary skills and knowledge	30%
	I am not pleased	15%
Assessment of teacher instruction	Excellent teacher	40%
	I am not pleased with the teacher	6%
	Very good teacher	39%
	The teacher needs improvement	15%
Physical education grade of respondents	Excellent (6)	89%
	Very good (5)	11%
PHYSICAL EDUCATION TRAINING AT UNIVERSITY		
What is your assessment of the physical education training sessions at the Medical University of Sofia?	The organization and the conduction of classes can be	5%
	Very good organization and conduction of classes	24%
	I am not pleased	1%
	Excellent organization and conduction of classes	70%
Do you receive the necessary knowledge (theoretical and practical) to practice your sport of choice at the Medical University of Sofia?	I do receive	91%
	Could be improved further	8%
	Do not receive	1%
What is your assessment of the university facilities where physical education classes are conducted?	Excellent conditions	70%
	Very good conditions	26%
	Good conditions but could be improved further	4%
What is your assessment of the teachers who conduct the physical education classes at the university?	Excellent at conducting sports classes	82%
	Fairly good	4%
	Very good performance of obligations	14%
Do you believe that the amount of physical education training sessions in the program of the university is sufficient?	Yes, I do believe it is enough	62%
	No, one academic class per week is not enough	38%
What motivates you the most to attend physical education training sessions at the university?	Fulfilling my obligations of attendance for the semester	43%
	Gaining new knowledge and skills	36%
	Meeting new colleagues	15%
	Improving my grade	6%

DISCUSSION AND CONCLUSION

After analyzing the results from the initial fitness test and the survey answers given by students, the following can be concluded:

1. The fact that the physical education grade form high school does not correspond to
2. Motivation and participation of university students in physical education classes can be

the results achieved in the initial fitness tests indicates a problem and raises the question of whether or not the high school grades for physical education are realistic.

considered another problem. The fact that university students attend sports classes mostly in order to meet the horarium expectations of the program or to meet new colleagues is an issue of concern.

3. Another negative response comes from a large group of respondents who state that a single academic hour of sport per week in the university program is enough, which indeed is completely insufficient to improve the previously developed skills and habits in the sport of choice.
4. On average, students in Medical university - Sofia have about 90 minutes a week for sport at university, which is far below the sanitary minimum of about 190 minutes on average weekly, according to the US National Association for Sport and Physical Education and 60 minutes daily recommended by the World Health Organization. (Kinov, 2014)
5. The need for changing forms of physical education and sport organization is increasingly prevalent in view of the new demands of the dynamic global economy and the challenges of new technological age. (Lukanova, 2018)
6. In our future scientific work, an additional research will be made to determine the factors and prerequisites that affect the results, similar to the study conducted by (Borukova, Kuleva, Tsarova, 2017).

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