



WELLNESS AT SCHOOL BY PRACTICING CHEERLEADING

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ABSTRACT

The issue for the health of children and youth, their physical culture, and motor activity is becoming increasingly relevant in Bulgarian society. Physical education and sports (PES) and a healthy lifestyle are factors that support young people's adaptation to new living conditions, opposing the continuously complicated health and environmental situation. This material analyses the place of Cheerleading in the third lesson of the discipline “Physical Education and Sport” at school. The beneficial effects of regular activities are established, and it is positioned to be included in the "Gymnastics and Dance" module under the category of "other". Overall, incorporating cheerleading into a school wellness program can have a range of benefits for students, from improving physical fitness to promoting social and emotional well-being. It is important to ensure that safety protocols are in place and that cheerleading is practiced in a safe and supervised environment. Cheerleading can be a fun and engaging way for students to stay active and promote wellness at school.

Key words: Gymnastics and Dance, third lesson, Physical education and sport, children and youth Health

INTRODUCTION

The beneficial effects of regular recreational activities are established long time ago (1, 2). Integrating a Wellness programs in schools can result in numerous health benefits for students (3-6). The issue for the health of children and youth, their physical culture, and motor activity is becoming increasingly relevant in Bulgarian society (7-9). Physical education and sports (PES) are related to healthy lifestyle (10-12). They are indicators that support young people's adaptation to new living conditions, opposing the continuously complicated health and environmental situation (13, 14). This material analysed the place of Cheerleading in the third lesson of the discipline “Physical Education and Sport” at school. Experts positioned Cheerleading

to be included in the "Gymnastics and Dance" module under the category of "other", in the Bulgarian Law for secondary education (15). Along with enhancing motor knowledge and skills, cheerleading enhances physical fitness while promoting social and emotional well-being. It is crucial to ensure that both genders have equal opportunities for public speaking and inclusion under equitable conditions. Furthermore, cheerleading training imparts safety skills for executing jumps and other acrobatic elements, creating a safe and controlled environment for motor practice. Cheerleading sessions can serve as a fun and stimulating way for students to stay active and cultivate a healthy lifestyle while at school (16).

METHODS

The aim of this research is to provide evidence for the functional benefits of cheerleading practice and its inclusion in the Physical Education and Sport curriculum (in the third lesson) at Bulgarian schools. The study utilized an advanced

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diagnostic tool, Fit Track, to measure functional changes and provide personalised QR codes for changes in body mass index and other physiological indicators resulting from cheerleading practice. The study was conducted during the 2022-2023 academic year and involved 91 schoolchildren, with an average age of 15.5 years and 87% female and 13% male participants. The group had varying levels of technical training and motor ability. The ethical standards set forth by the Bulgarian "Ethics in Science" guidelines were adhered to, and all participants provided written informed consent and their parents' agreement. The data were analyzed using SPSS version 25, and the descriptive statistics were presented as mean and standard deviation. A two-way repeated measure was conducted to assess the effect of Majorettes' practice on heart rate (HR) during lessons, both before and after practice.

RESULTS

This provokes updating the positions of state and public authorities and organizations for forming values and orientations among children and youth, for a conscious, positive attitude towards strengthening their own health and physical development. The normative documents developed and approved by the Ministry of Education and Science have a significant contribution in this regard with the key competence No 9 (17). Based on Article 16, paragraph 4 of the Law on the Degree of Education, the General Education Minimum, the Curriculum, and based on Article 21, paragraph 3 of the Law on Physical Education and Sport, a third lesson on the subject of Physical Education and Sport is introduced (18). The modules for organizing and implementing the third lesson in physical education and sport in schools are approved by Order No. RD - 09 - 1038 of July 27, 2004, of the Minister of Education and Science. Cheerleading can be a fun and engaging way for students to stay active and promote wellness at school. Here are a few potential benefits of incorporating cheerleading into a school wellness program: Physical activity: Cheerleading involves a lot of physical activity, such as

jumping, dancing, and stunts, which can help students stay fit and healthy. In this study we examined the variations in certain indicators, such as visceral fat index, fat mass, body fat percentage, protein norm, muscle mass, and basal metabolism, which reflect metabolic age. The primary goal of this assessment was to develop healthy and wellness resources in Bulgarian schools as attractive instrument for the third lesson in physical education and sport. The Smart System for analysing anthropometric and morphological indicators was used to collect data from the study participants, for the 18 indicators. They all showed low values that corresponded to the normal distribution limits based on theoretically determined statistical values. This was true for all indicators, with the exception of adipose tissue mass (No. 5) and control weight (No. 18). For the group, there was only one exception to the normal distribution, which was control weight (No. 18). The research results show that there are greater variations in the indicators for the participants from the school group, A comparative analysis of the indicators was performed for the two groups and no significant differences were found. The absence of significant differences does not provide statistical evidence for the presence of differences between the two groups. The results of the research are also not limited to random statistical errors inherent in scientific experiments. Comparison of the data from the maximum and minimum values of the research samples shows that there is a greater change in the participants from the school group compared to the results of the representative cheerleading team of the NSA "V. Levski". This is also confirmed by the higher value of the span (R). **Table 1** displays the registered values of the various indicators for the participants from the school group taking part in the FIT TRACK program.

Table 2 and Figure 1 include measures that will not change because of the short time between entry and exit measurement: bone mass index, height, and body score. In contrast weight, subcutaneous fat and protein content level were statistically significant.

Table 1. Schoolchildren target majorettes group - First functional indicators study with variation analysis

Indicators	X	S	Var	Ex	As	Max	Min	R
1. Age	15,5	0,33	2%	4,90	-2,51	17,00	14,00	3,00
2. Height (cm)	155	6,06	4%	1,22	1,23	165,00	145,00	20,00
3. Weight (kg)	55,5	8,08	14%	1,32	-0,30	62,70	40,60	22,10
4. Index visceral fats	1,0	0,00	0%	-	-	1,00	1,00	0,00
5.Fat mass	2,4	0,28	12%	2,59	-1,14	2,80	1,60	1,20
6. % BFR - body fat rate	23,6	5,85	25%	-0,76	0,01	32,80	13,40	19,40
7. % - Protein rate	15,9	1,57	10%	-1,08	-0,05	18,40	13,50	4,90
8. Bone Mass)	2,4	0,31	13%	1,70	-0,42	3,00	1,60	1,40
9. Metabolic Age	18,4	1,54	8%	-0,39	-0,60	20,00	15,00	5,00
10. Kcal)- Basal metabolic rate (BMR)	1285,3	140,88	11%	1,47	-0,43	1569,00	990,00	579,00
11. % - Obesity level	21,2	2,76	13%	1,67	-1,00	25,40	15,00	10,40
12. Standard weight	59,3	4,19	7%	1,17	1,04	70,00	54,00	16,00
13. Weight without fat	13,7	4,59	34%	-0,41	0,26	22,90	5,50	17,40
14. Muscle Mass	44,0	5,69	13%	0,56	0,05	56,70	32,70	24,00
15. % - Percentage of muscle mass	56,1	4,46	8%	-0,97	-0,07	63,70	49,20	14,50
16. BMI - kg m ²	20,6	2,13	10%	0,83	-1,02	23,10	15,80	7,30
17. % - Body water percent	39,9	4,87	12%	0,68	-0,11	50,50	30,50	20,00
18. Weight control	-1,4	5,84	-415%	0,79	-0,96	6,20	-15,20	21,40
19. Physical evaluation	3,5	0,87	25%	-0,44	0,00	5,00	2,00	3,00

Comparative analysis with independent samples of the variation indicators of the two majorettes groups of students

t	0,0	-0,5	0,8	-2,0	0,4	-0,1	0,1	-0,7
Pt [%]	1,1	38,3	59,2	94,8	30,4	9,1	9,0	48,3

Table 2. Students target majorettes group. 2. - Second functional indicators study with variation analysis

Indicators	X1	X2	d	d%	t	Pt
1. Age	15,5	15,5	0,00	0,00	0,00	0,0
2. Height (cm)	155	155	0,00	0,00	0,00	0,0
3. Weight (kg)	57,8	57,3	0,46	0,80	3,57	99,1
4. Index visceral fats	1,0	1,0	0,00	0,00	0,00	0,0
5.Fat mass	2,4	2,3	0,08	3,13	2,05	92,0
6. % BFR - body fat rate	28,1	19,0	-9,09	-47,77	-9,46	100,0
7. % - Protein rate	14,5	17,2	2,74	15,88	13,06	100,0
8. Bone Mass)	2,4	2,4	0,01	0,53	0,19	14,3
9. Metabolic Age	18,5	18,3	-0,25	-1,37	-1,53	83,0
10. Kcal)- Basal metabolic rate (BMR)	1259,9	1310,8	50,88	3,88	6,45	100,0
11. % - Obesity level	21,2	21,2	0,00	0,00	0,00	0,0
12. Standard weight	60,8	57,9	2,89	4,75	11,77	100,0
13. Weight without fat	10,9	16,5	-5,54	-50,74	-10,94	100,0
14. Muscle Mass	41,2	46,9	5,75	12,26	11,24	100,0
15. % - Percentage of muscle mass	52,5	59,6	7,13	11,95	12,93	100,0
16. BMI - kg m ²	20,6	20,7	-0,05	-0,24	-0,54	39,4
17. % - Body water percent	38,0	41,9	3,98	9,48	5,66	99,9
18. Weight control	-2,8	0,0	-2,76	99,10	-6,60	100,0
19. Physical evaluation	3,5	3,5	0,00	0,00	0,00	0,0

The level of protein content, daily caloric balance, standard weight, fat-free weight, muscle mass weight, muscle mass percentage and control weight was affected by the intensity of the

cheerleading program. It is characterized by a mixed workout (aerobic-anaerobic), with each of the exercises having a focus on one or the other component.

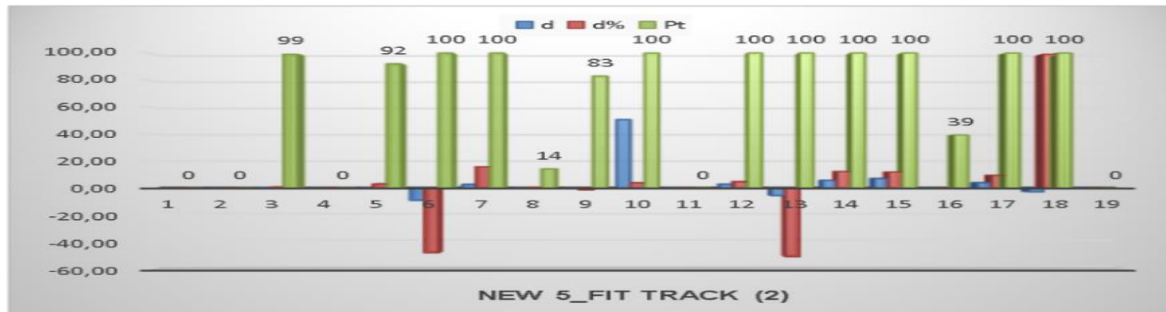


Figure 1. The dynamics of the d% increments and the guaranteed probability (Pt).

Figure 1 illustrates the dynamics of d% increments and guaranteed probability (Pt) for participants from the school representative cheerleading team. To further analyse the data, a correlation matrix was created based on established correlation coefficients. This allowed us to identify which indicators were significantly present in the correlation analysis, such as weight ($r = 0.873$) or subcutaneous adipose tissue ($r = 0.968$) which affects metabolic age ($r = 0.864$). The level of daily caloric balance ($r = 0.884$) is strongly correlated with the level of obesity ($r = 0.973$). Muscle mass weight ($r = 0.999$) is inversely related to control weight ($r = -0.828$), percentage of water in the body ($r = -0.873$), and high levels of protein in the daily diet.

DISCUSSION

Engaging in regular physical activity has been proven to enhance cardiovascular health, strengthen bones and muscles, and lower the risk of obesity and chronic ailments. Cheerleading is a one physical activity that offers numerous benefits to students, such as promoting school spirit and enhancing the mental health of participants. In addition, participating in cheerleading can positively affect psychological well-being by reducing stress levels, improving mood, and enhancing self-confidence. Cheerleading can be a fun and exciting way for students to express themselves and boost their self-esteem. In general, including cheerleading in a school wellness program can have various advantages for students, ranging from improving physical fitness to fostering social and emotional well-being. However, it is crucial to ensure the implementation of safety protocols and to

supervise cheerleading practices in a secure environment.

CONCLUSION

Here are a few potential benefits of incorporating cheerleading into a school wellness program:

1. **Physical activity:** Cheerleading involves a lot of physical activity, such as jumping, dancing, and stunts, which can help students stay fit and healthy. Regular physical activity has been shown to improve cardiovascular health, strengthen bones and muscles, and reduce the risk of obesity and chronic diseases.
2. **Teamwork and social skills:** Cheerleading is a team sport, which means students will have to work together to achieve their goals. This can help students develop important teamwork and social skills, such as communication, leadership, and cooperation.
3. **School spirit:** Cheerleading is often associated with school spirit and can help create a sense of community and belonging within the school. This can be especially important for students who may feel isolated or disconnected from their peers.

ACKNOWLEDGEMENT

Conflict of Interest: No conflict of interest was declared by the authors and the institutions.

Financial Disclosure: The developed analysis is with the financial support of the project BG05M2OP001-1.001-0001 "Building and developing a Centre of Excellence "Heritage BG", funded by the Operational Program "Science and Education for Smart Growth.

Declarations of informed consent have been signed regarding the publication of survey data.

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NESHEVA I., et al.

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