



EDUCATION FOR SUSTAINABLE DEVELOPMENT: UNDERSTANDING BY PHYSICAL EDUCATION AND SPORTS SPECIALISTS

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Abstract

Study purpose. The purpose of the study was to investigate the need for physical education and sports specialists to acquire competencies for the organization of educational activities for sustainable development and their understanding of the involvement of the field of physical education and sports in the implementation of sustainable development goals.

Materials and methods. The study involved 106 specialists in physical education and sports from various regions of Ukraine (73 women and 33 men). The participants comprised representatives of general secondary education institutions (schools, lycées, gymnasiums) – 70.7% of the respondents (75 persons), representatives of higher education institutions (universities and academies) – 11.3% of the respondents (12 persons), representatives of sports institutions (youth sports schools and sports complexes) – 10.4% of the respondents (11 persons), representatives of vocational education institutions (schools, colleges) and out-of-school youth work centers – 7.5% of the respondents (8 persons). The respondents' work experience in the field of physical education and sports ranged from 1 to 45 years. The study used the methods of surveying, analysis and synthesis of information, and mathematical information processing.

Results. The survey revealed that most of the respondents are not sufficiently familiar with the issues of sustainable development. 51.89 % of the respondents indicate partial awareness of the concept and sustainable development goals, 5.66 % claim that they are not familiar with such information at all. The majority of the physical culture and sports specialists who participated in the experiment do not understand the essence and depth of Sustainable Development Goals and only link physical education and sports to such Sustainable Development Goals as good health and well-being (Goal 3), quality education (Goal 4), and gender equality (Goal 5).

Conclusions. It was found that only 3.8% of the respondents can find a correlation between the field of physical education and sports and the seventeen Sustainable Development Goals. 62.26% of the respondents indicate that they need to expand their knowledge and skills on sustainable development, 46.23% of the respondents want to deepen the knowledge and skills in the methodology of implementing education for sustainable development. Most of the surveyed physical education and sports specialists need advanced training to acquire the competencies necessary for the implementation of educational activities for sustainable development.

Keywords: sustainable development, education, physical education, sports, physical education instructor, trainer.

Introduction

Education for Sustainable Development (ESD) is an approach to organizing the educational process that aims to inform members of society about the main environmental, economic and social issues of sustainable development; promotes understanding of the essence of the factors that determine an unsustainable way of life; and develops critical,

non-standard and creative thinking to find the most effective solutions to global problems (UNECE Strategy, 2005).

The impetus for the introduction of ESD in Ukraine was the European integration processes (Uhoda, 2014). They led to several reforms. In particular, in the field of education, in 2017, a new version of the Law “On Education” was adopted, where the goal of education is defined as “... raising the educational level of citizens to ensure sustainable development of Ukraine and its European choice.” In addition, in 2017, the physical culture curricula for general secondary education institutions were updated, which, as

part of the key competencies, included the formation of an active and responsible citizen who is ready to participate in solving environmental issues and is aware of the importance of sustainable development of society (Navchalna prohrama, 2017). This requires that physical culture teachers and sports coaches have both relevant knowledge of sustainable development issues and skills in organizing educational activities for sustainable development.

In 2018, the United Nations recognized sport as a factor in ensuring sustainable development along with education. As a result, states are encouraged to effectively use the power of sport to achieve sustainable development goals, and organizers of sporting events are encouraged to use a variety of initiatives to engage sport for sustainable development and peace (Sport as an enabler, 2018). This has contributed to the fact that athletes and the sports industry abroad have become active in achieving sustainable development goals and have accumulated significant experience (Tsyhura, 2022a). Physical culture and sports specialists working in the field of education are much less involved in the implementation of these goals. Recommendations on the possibilities of physical culture in the context of education for sustainable development appeared during the Decade of Education for Sustainable Development (Osborne & Batista, 2010; Lynch, 2016). A new wave of interest in this issue has been emerging since 2018, but researchers note that the educational aspects of sustainable development in the field of physical culture and sport is very little investigated (Baena-Morales et al., 2021; Lundvall & Fröberg, 2022).

In Ukraine, the sphere of physical culture and sports in general is not much involved in the implementation of Sustainable Development Goals (Imas et al, 2018; Natsionalnyi olimpiyskyi komitet Ukrainy, 2020). We have repeatedly emphasized the importance of preparing future physical culture and sports specialists for educational activities for sustainable development (Tsyhura, 2019; Tsyhura, Harkusha, 2020); defined the essence and structural components of the readiness of future physical culture and sports specialists for educational activities for sustainable development (Tsyhura, 2020) and the main organizational and pedagogical conditions that affect such training (Tsyhura, 2022b). In addition, in one of our previous studies, we found that students of the Faculty of Physical Culture are not sufficiently aware of the issues of sustainable development and need to acquire competencies to perform this educational activity (Tsyhura, 2021). We believe that qualified physical culture and sports specialists may also have a similar need.

Objective: to study the need of physical culture and sports specialists to acquire competencies for the organization of educational activities for sustainable development and their understanding of the involvement of the field of physical culture and sports in the implementation of sustainable development goals.

Materials and methods

Participants of the study

The voluntary online survey involved 106 persons in total: 73 women and 33 men – 68.9% and 31.1% of respondents, respectively. The survey participants came from all regions

of Ukraine. Among them, 75 persons (70.7%) represented general secondary education institutions (schools, lyceums, gymnasiums), 12 persons (11.3%) represented higher education institutions (universities and academies), 11 persons (10.4%) represented sports institutions (youth sports schools and sports complexes), and 8 persons (7.5%) represented vocational education institutions (schools, colleges) and out-of-school youth work centers. All respondents working in general secondary and vocational education institutions are physical culture teachers; representatives of higher education institutions teach disciplines such as Pedagogy, Recreational Physical Activity, Theory and Methods of Physical Culture, Professional Skills, Fitness Technologies, Personal Training, Athletics, Gymnastics, Basketball, Volleyball, Football, Tennis, and are trainers in the respective sports.

The experience of the survey participants in the field of physical culture and sports ranged from 1 to 45 years (Fig. 1). The majority of respondents were aged 30-45.

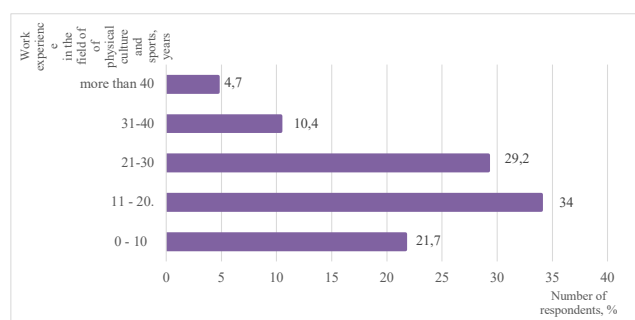


Fig. 1. The distribution of respondents by length of service in the field of physical culture and sports

Design of the study

The study was conducted in 2021-2022. The survey was designed using Google Form. The survey consisted of an introduction and two sections. In the Introduction, we explain the reason for the online survey.

The content of the introduction of the online survey: “Dear colleagues! According to the Law of Ukraine “On Education”, the purpose of education is: “...raising the educational level of citizens to ensure sustainable development of Ukraine”. Sustainable development is understood as a balance of economic growth with environmental protection and social well-being of society. Since 2017, the curricula for general secondary education institutions in Ukraine have been providing for the formation of a personality aimed at sustainable development of society, which is ensured by key competencies that are integrated in the relevant content areas. In this regard, you are invited to take part in a survey to identify the need for physical culture and sports specialists for assistance in organizing educational activities for sustainable development. The survey is anonymous. Please answer the questions that are offered to you.”

The first block of the survey included open-ended questions and allowed us to collect social information about the place and length of service in the field of physical culture and sports, main disciplines/subjects of teaching, region of residence, and gender.

The second block of the survey contained a list of Sustainable Development Goals (Table 1) and open-, closed-, and semi-closed questions related to sustainable development and educational activities for sustainable development.

The survey was distributed in the form of Google Forms through social groups of educators on Facebook. The survey was addressed to physical culture and sports specialists – teachers of higher education institutions, teachers of general secondary education institutions, and coaches of various sports. Participants were informed about the purpose of the study and its voluntary nature and the anonymity, and confidentiality of the information provided.

Table 1. List of Sustainable Development Goals (SDGs)

List of Sustainable Development Goals
1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, Innovation and Infrastructure
10. Reduced inequality
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnership for the goals

Statistical analysis

The material was systematized and mathematically processed using Microsoft Excel 2010.

Results

We will present the results of the survey concerning the views of specialists of physical culture and sports on the problems of sustainable development and the implementation of educational activities for sustainable development.

To the question “How well do you know the concept of “sustainable development” and the goals of sustainable development?”, more than half of the respondents answered “I am partially familiar with this concept, I have heard something about the goals of sustainable development”. Slightly less than half of the respondents answered “I am well acquainted with this concept, I am well aware of the sustainable development goals” (Table 2). Among the participants of the online survey, there were also those who said: “I am not familiar with this concept and the sustainable development goals,” but there were very few of them.

Table 2. Results of answering the question: “How well are you familiar with the concept of “sustainable development” and the sustainable development goals?”

Proposed answers	Number of answers	
	Number of respondents	%
I am well acquainted with this concept, I am well aware of the sustainable development goals	45	42.45
I am partially familiar with this concept, I have heard something about the goals of sustainable development	55	51.89
I am not familiar with this concept and the sustainable development goals	6	5.66

The next question was a question of evaluation in which the survey participants were asked to rate themselves on a 10-point scale: “One of the tasks of education for sustainable development is to teach everyone to understand what is happening to the environment, economy and society and to find the best ways to solve problems in the interests of all members of society and nature today and in the long term. To what extent do you have sufficient knowledge and skills to perform educational activities for sustainable development?” As a result, the most of respondents rated themselves at 7 and 8 points, namely: 27 respondents (25.47%) and 28 respondents (26.41%), respectively (Fig. 2). Many participants of the survey rated themselves with the highest scores, namely: 17 respondents (16.04%) rated themselves with 9 points and 15 respondents (14.15%) with 10 points. A much smaller number of survey participants rated themselves with 6 points or less: 5 respondents (4.72%) rated themselves with 6 points, 8 respondents (7.55%) with 5 points, 1 respondent (0.94%) with 2 and 4 points, and 2 respondents (1.89%) with 1 and 3 points.

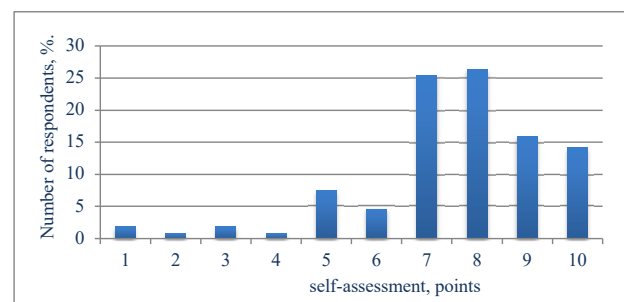


Fig. 2. Respondents' self-assessments of knowledge and skills in implementing educational activities for sustainable development

To the question “From what sources did you acquire knowledge and skills in organizing educational activities for sustainable development?”, most answers were “self-education via the Internet”, much less – “advanced training courses on education for sustainable development” (Table 3), and in the column “Other” one respondent indicated “Chandran Nair’s book “The State of Sustainable Development””, and one more respondent indicated “work experience, information from colleagues”; 6 respondents (5.66%) indicated that they did not receive such information at all.

Table 3. Results of answering the question: «From what sources did you acquire knowledge and skills in organizing educational activities for sustainable development?»

Proposed answers	Number of answers	
	Number of respondents	%
Self-education via the Internet	76	71.70
Advanced training courses on education for sustainable development	21	19.81
Other	9	8.49

Table 4. Results of answering the question: “How often do you use sustainable development knowledge in your professional activities?”

Proposed answers	Number of answers	
	Number of respondents	%
use often	41	38.68
use sometimes	57	53.77
do not use	8	7.55

To the question “How often do you use sustainable development knowledge in your professional activities?”, more than half of the participants of the online survey answered “use sometimes”, much less – a “use often”, and there were few answers “do not use” (Table 4).

Among the SDGs that physical culture and sports specialists discuss most often with students, Goals 3 and 4 (the full names of the SDGs are given in Table 1) were predictably identified by 91.51% and 76.42% of respondents, respectively (Fig. 3). A very high percentage of respondents also mentioned Goal 5 – 58.49%. About a third of the respondents say that among the Sustainable Development Goals that they discuss with their pupils and students are Goals 6, 16 and 17 – 37.74%, 34.91%, and 35.85%, respectively.

Much less specialists try to work with pupils and students on Goals 8, 10, and 11 – 27.36%, 20.75%, and 17.92%, respectively. And only 9.43 – 11.32% of specialists pay attention to such extremely important Sustainable Development Goals as 13, 14 and 15, which form the basis of sustainable development.

Results of answers to the question: “Which of Sustainable Development Goals are not related to physical culture

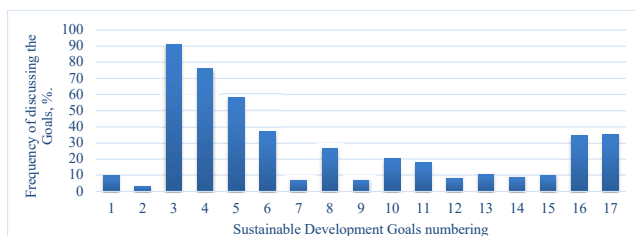


Fig. 3. Results of answers to the question: “Which of Sustainable Development Goals do you discuss most often with your students/pupils?”

and sport at all?” are shown in Fig. 4. Among the respondents, only 3.8% pointed to the correlation between all 17 Sustainable Development Goals and the field of physical culture and sport. The rest of the respondents do not see such a correlation. Almost half of the respondents indicated that, in their opinion, Goals 1, 2, and 14 are irrelevant to physical culture and sports specialists – 49.06%, 49.06% and 48.11% of respondents, respectively. A slightly less percentage of respondents showed the same attitude toward Goals 9, 13, and 15: 41.51%, 39.62%, and 41.51% of respondents, respectively. About a third of the online survey participants indicated that they did not see any common ground between physical culture and sport and Goals 7, 11 and 12, which is 33.96%, 33.02% and 36.79% of respondents, respectively. About 1/4 of the participants in the online survey did not find anything in common between physical culture and sports and Goals 6, 8, 10, 16 – 18.87%, 25.47%, 23.58% and 24.53% of respondents, respectively. About 1/10 of the respondents indicated that Goals 3, 4, and 17 are irrelevant to physical culture and sports specialists – 14.15%, 12.26%, and 11.32%, respectively. A similar view on Goal 5 indicated 5.66% of respondents.

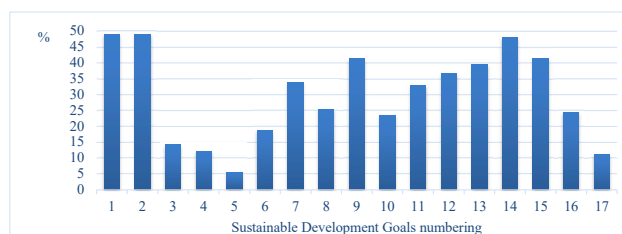


Fig. 4. Results of answers to the question: “Which of Sustainable Development Goals are not related to physical culture and sport at all?”

To the question “In what form do you conduct educational activities for sustainable development?”, half of the respondents indicated a physical culture lesson, ¼ of the participants – educational activities; very few participants noted group work involving sustainable development issues (Table 5). In the column “Other”, respondents indicated educational work for sustainable development during individual conversations and competitions or indicated that they did not conduct such work.

Table 5. Results of answering the question: “In what form do you conduct educational activities for sustainable development?”

Proposed answers	Number of answers	
	Number of respondents	%
I introduce sustainability issues during physical culture lessons/activities	54	50.94
I conduct educational activities with students on sustainable development issues	40	37.74
I conduct group work on sustainable development	5	4.72
Other	7	6.60

Table 6. Results of answering the question: “Do you think it necessary to improve your level of knowledge and skills for successful implementation of educational activities for sustainable development?”

Proposed answers	Number of answers	
	Number of respondents	%
Yes, I need to deepen my knowledge and skills on sustainable development issues	66	62.26
Yes, I need to deepen my knowledge and skills on the methods of implementing education for sustainable development	49	46.23
No, there is no need for this	1	0.94

Answering the question “Do you think it is necessary to improve your level of knowledge and skills for successful implementation of educational activities for sustainable development?”, almost 2/3 of the participants of the online survey indicated that they needed to expand their knowledge and skills on sustainable development (Table 6). Almost half of the participants indicated that they needed to deepen knowledge and skills in the methodology of implementing education for sustainable development, and only one respondent indicated that they did not have such a need.

To the question “Do you think it is necessary to introduce a separate discipline on sustainable development in the educational programs of training of physical culture and sports specialists to form relevant knowledge, skills and abilities on education for sustainable development?”, the respondents’ opinions were divided almost equally with a slight advantage in favor of the affirmative answer “Yes” (Table 7).

Table 7. Results of answering the question: “Do you think it is necessary to introduce a separate discipline on sustainable development in the educational programs for training specialists in physical culture and sports?”

Proposed answers	Number of answers	
	Number of respondents	%
Yes	56	52.83
No	50	47.17

The answers to the question “In which disciplines, in your opinion, is it possible to introduce separate modules to prepare future specialists in physical culture and sports for educational activities in the interests of sustainable development?” were interesting. In particular, the respondents mentioned the following disciplines as general training: Biology, Geography, Fundamentals of Life Safety, Valeology, Fundamentals of Health, Economics, Psychology; and professional training disciplines: Theory and Methods of Physical Culture, Theory of Sports, Physical Culture, Tourism, Organization and Management in Physical Culture, Legal Aspects of Physical Culture, General and Sports Pedagogy, Professional Skills. Some respondents pointed to the introduction of a separate course on Sustainable Development in Physical Culture and Sport.

Discussion

The study assumed that physical culture and sport specialists are not sufficiently aware of the issues of sustainable development and need to acquire appropriate competencies to perform educational activities for sustainable development. Our data complement the results of research by scientists who propose using physical culture and sports to promote the achievement of sustainable development goals. In particular, Osborne & Batista (2010) note that physical culture teachers in Brazil support education for sustainable development within their school subject and are convinced of the importance of working on issues of social equality, partnership, sanitation, waste management, and believe that the environment is a cross-cutting issue that should be addressed by all disciplines. Lynch (2016) shows the potential of physical culture and sport to contribute to Sustainable Development Goals 3, 4, and 17 through several projects. We support the arguments of Lundvall and Fröberg (2022), who believe that quality physical culture is not only about health through movement but also about providing knowledge about health and everything that affects it – society and the environment (natural and human-made). They propose to consider Goals 3, 4, 5, 10, 11, 12 in the field of physical culture. Baena-Morales et al. (2021) further expand the range of Goals that have links to physical culture (13 and 16 are added to the already mentioned Goals). And Salvo et al. (2021) point to the possibility of physical culture contributing to the achievement of fifteen Goals. We are convinced that all seventeen SDGs can be considered from the perspective of physical culture and sport, as we will argue below, but we believe that the question is no longer whether physical culture and sport can be a tool for achieving the SDGs, but how it can be realized.

According to our research, a significant number of physical culture and sports specialists (57.55% of respondents) are not sufficiently aware of the issues of sustainable development and the methodology of organizing educational activities for sustainable development within the professional activities of a physical culture and sports specialist. This can be explained by the lack of a clear state policy on these issues (Koreneva, 2018). Thus, no regulatory document or program that regulates the professional activity of a physical culture and sports specialist has tasks related to the goals of sustainable development (Analiz, 2017). Another reason for the lack of involvement of sports specialists in such activities is that most of them do not see the correlation between sports and the environment (Chernushenko, 1994). While this situation has already changed dramatically in leading European countries, in Ukraine, some physical culture and sports specialists still do not understand the essence and depth of the sustainable development goals.

According to the survey, only 3.8% of respondents pointed to the correlation between the field of physical culture and sports and 17 Sustainable Development Goals. For example, there are respondents who say that Goals 5 and 10 are not related to physical culture and sport. However, the issues of social equality and gender have been facing society for decades and are very relevant and discussed in the field of physical culture and sports (Kempe-Bergman et al., 2020; Eime et al., 2021; Nemček, 2022). Paralympic sport is also gaining ground and is a way to reduce social inequality

(Foster et al., 2019; Goh, 2020). Some respondents, who work in the education sector, noted that Goals 3, 4, and 17 do not apply to the field of physical culture and sport. It's outrageous because without partnership and cooperation, it is impossible to organize any sports or physical culture activities, and many leading scientists in the field are working on improving and maintaining health through physical culture (Krucevich, 1999; Nosko et al., 2010; Harkusha, 2014). In addition, the terms "education", "health", and "physical culture" are logically related (Goncharova et al., 2020; Ivashchenko et al., 2021; Govindasamy et al., 2022). Some respondents also pointed out that there is no correlation between physical culture, sport and SDGs 6, 7, 8, 9; but the dependence of the health of every athlete, as well as of any person, on sanitation and water quality is undeniable (Donnelly et al., 2016; Tsyhura (Usmanova), 2018; Chamberlain et al., 2019); as well as the dependence of the sports industry on the state of the economy, energy resources and innovative technologies (Thomas & Grant 2014; Erdmann et al., 2022; Wilby et al., 2023).

Much of respondents see nothing in common between sport and SDGs 1, 2, 11, 12, 13, 14, 15 and 16. This is also surprising, as climate change is becoming an increasingly important issue for the proper organization of the Winter Olympics, with organizers increasingly reporting a lack of snow cover and high average temperatures (Wilby et al, 2023), which negatively affects both the chemical composition of the biosphere and its biodiversity in general, and the health of athletes (Çalik & Geri, 2022; Sustainability for All, 2022). Also, the sports industry uses a large amount of the planet's resources and requires appropriate infrastructure for its development. In addition, poverty and hunger are socioeconomic phenomena that professional sports are trying to combat in some countries, and poverty and persistent malnutrition are the reasons that encourage Brazilian children to practice football to get into professional sports and forget about hungry childhoods forever (Uehara et al., 2021).

The obtained results confirm that physical culture and sports specialists need advanced training in a variety of sustainable development issues to acquire the relevant competencies in order to perform quality educational activities in this area in accordance with the requirements of modern Ukrainian legislation on education.

Thus, the results obtained indicate the imperfection of the training of physical culture and sports specialists and their retraining during the advanced training courses, as they do not have enough competencies to perform educational activities for sustainable development.

Conclusions

It was found that most of the surveyed physical culture and sports specialists are not sufficiently familiar with the issues of sustainable development. 51.89 % of respondents indicate partial awareness of the concept and goals of sustainable development, 5.66 % of respondents claim that they are not familiar with such information at all.

It was found that the majority of physical culture and sports specialists who took part in the experiment did not understand the essence and depth of the Sustainable Development Goals – only 3.8% of respondents indicated the correlation between the field of physical culture and sports and

all 17 Sustainable Development Goals. The majority of respondents correlate the physical culture and sport only to the following Sustainable Development Goals as good health and well-being (Goal 3), quality education (Goal 4), and gender equality (Goal 5).

It was found that 62.26% of respondents need to enlarge their knowledge and skills on sustainable development, 46.23% of respondents want to deepen knowledge and skills in the methodology of implementing education for sustainable development, and most of the surveyed physical culture and sports specialists need advanced training to acquire the competencies necessary for the implementation of educational activities for sustainable development.

Conflict of interest

The authors have no conflicts of interest to declare.

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ОСВІТА ДЛЯ СТАЛОГО РОЗВИТКУ: РОЗУМІННЯ ФАХІВЦЯМИ ФІЗИЧНОЇ КУЛЬТУРИ І СПОРТУ

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 8 с., 7 табл., 4 рис., 40 джерел.

Мета: вивчити потребу фахівців фізичної культури і спорту в набутті компетентностей для організації освітньої діяльності в інтересах сталого розвитку та розуміння ними причетності галузі фізичної культури і спорту до реалізації цілей сталого розвитку.

Матеріали і методи. У дослідженні брали участь 106 фахівців фізичної культури і спорту різних регіонів України (73 особи жіночої статі та 33 особи чоловічої статі). Серед них представники закладів загальної середньої освіти (шкіл, ліцеїв, гімназій) – 70,7 % респондентів (75 осіб), представники закладів вищої освіти (університетів та академій) – 11,3 % респондентів (12 осіб), представники спортивних закладів (дитячо-юнацьких спортивних шкіл та спортивних комплексів) – 10,4 % респондентів (11 осіб), представники закладів професійної освіти (училищ, коледжів) та центрів позашкільної роботи з молоддю – 7,5 % (8 осіб). Стаж роботи респондентів у сфері фізичної культури і спорту становив від 1 до 45 років. У дослідженні використані методи анкетування, аналізу та синтезу інформації, математичної обробки інформації.

Результати. У результаті анкетування виявлено, що більша частина опитаних фахівців фізичної культури і спорту недостатньо обізнані з проблематикою сталого розвитку. 51,89 % респондентів вказують на часткову обізнаність з поняттям та цілями сталого розвитку, 5,66 % стверджують, що взагалі не знайомі з такою інформацією. Більшість фахівців фізичної культури і спорту, які взяли участь в експерименті, не розуміють сутності й глибини цілей сталого розвитку і встановлюють зв'язок фізичної культури і спорту тільки з такими Цілями сталого розвитку як міцне здоров'я (№3), якісна освіта (№4), гендерна рівність (№5).

Висновки. Виявлено, що тільки 3,8 % опитаних можуть знаходити взаємозв'язок між галуззю фізичної культури і спорту та сімнадцятьма цілями сталого розвитку. 62,26 % опитаних вказують, що потребують розширення кола знань і вмін з питань сталого розвитку, 46,23 % опитаних хочуть поглибити знання і вміння з методики впровадження освіти для сталого розвитку. Більшість опитаних фахівців фізичної культури і спорту потребують підвищення кваліфікації з метою набуття компетентностей, необхідних для здійснення освітньої діяльності для сталого розвитку.

Ключові слова: сталий розвиток, освіта, фізична культура, спорт, учитель фізичної культури, тренер.

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