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Original research paper

HEALTH THEMES IN PRIMARY EDUCATION: A COMPARATIVE STUDY OF WESTERN BALKAN CURRICULA*

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ABSTRACT

Given current world events, health education (HE) is recognised as a critical component for the wellbeing of a healthy population. This comparative study aimed to analyze the representation of health themes in the curricula of selected Western Balkan countries (Croatia, Serbia, Bosnia and Herzegovina, and Montenegro) and to examine whether the analyzed curricula predominantly reflect goal-, outcome-, or content-oriented approaches. A qualitative content analysis of official documents for the first four grades of primary education was conducted using predefined analytical criteria related to curriculum orientation, health themes, planning and organization of learning, and assessment approaches. The findings indicate that all analyzed curricula include health-related themes, although important differences exist in curriculum structure and integration of health content. Croatian and Serbian curricula demonstrate stronger orientation toward learning goals and outcomes, while the curricula of Bosnia and Herzegovina and Montenegro remain predominantly content-oriented. The Croatian curriculum particularly emphasizes cross-curricular integration of HE. The study highlights similarities and differences in curriculum approaches to HE and points to the importance of curriculum orientation in organizing health-related teaching content.

Keywords:
comparative study, curriculum, goal-oriented approach, health education, primary school.

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INTRODUCTION

In the 20th century, international organizations, including UNICEF, UNESCO, and WHO, highlighted the value of schools in maintaining and enhancing children's health (WHO, 1951). In light of the contemporary global crises of the 21st century, such as numerous health challenges, climate change, pollution, and poverty, health education (HE) is becoming a priority issue that should be increasingly advocated. Schools are recognized as the most effective places where health content can be broadly delivered to children and wider communities (WHO, 1998). Worldwide, studies have reported that school-based health interventions have been successfully implemented to prevent health problems and improve both health and educational outcomes (Akera et al., 2022; Cefai et al., 2014; Simões et al., 2021). The importance of implementing HE in school curricula has been emphasized in global initiatives for promoting school health, such as *Health Promoting School* and *Coordinated Schools Health Programme*, which highlights that HE and promotion can only be effective if the entire school environment is directed towards that task (Tomokawa et al., 2021; WHO, 1998, 2007).

Education is a vital component of an individual's health and contributes to other aspects of their current and future health. Basic HE of students, as well as teachers, is an essential prerequisite for maintaining good health and well-being (Petrovic et al., 2021). According to Hahn and Truman (2015), a person is not considered healthy if they lack fundamental knowledge, capacity to reason, emotional capacities for self-awareness and emotional regulation, and social interaction abilities. HE is a key component of lifelong education. As such, HE is recognized in school curricula worldwide. However, curricula vary among countries (Joris & Sanderse, 2024; Mølstad, 2015; Mølstad & Karseth, 2016; Priestly & Sinnema, 2014; Vitikka et al., 2012; Wijngaards-de Meij & Merx, 2018), mostly regarding the approach to it. Schools provide an opportunity for health promotion, as children spend most of their time there. Furthermore, schools provide links to communities, families, and healthcare providers (Akera et al., 2022). Studies have indicated that to achieve the shared goal of maintaining health, the entire school system – students, teachers, parents, professional associates, administration, and curriculum – must be involved (Akera et al., 2022; Laslo et al., 2023; Tomokawa et al., 2021).

Teaching/Learning the content of the HE means translating knowledge about health into the desired way of behaving, while recognizing true life values

and encouraging optimal personality development (Sharma, 2021). In this regard, knowledge of health content is at the top of the ladder of knowledge and skills of great importance for the purposeful development of the personality of each member of the community (UNESCO, 2021). Some studies highlight the importance of curriculum design for HE, student engagement, staff professional development, and schools as resource centers for health information (Lee et al., 2019; Marchant et al., 2019). Schools can provide an engaging curriculum that encourages academic growth, reduces health disparities, and improves future employment opportunities, ultimately improving adult health and well-being (Marchant et al., 2019). The significance of curriculum and curriculum-related methodologies has evolved over time. Globally, notable variations in curricula are generally apparent (Auld et al., 2020; Dodigbegović & Adžemović Crepulja, 1996), because national education systems continue to contain persistent, frequently imperceptible components of national identity (Tröhler, 2016). The curricula of different countries determine the content of HE subjects in various ways. Despite the immense potential of Möller's1 theory of education, few studies have been conducted on it. Nonetheless, the question is raised: if this theory is so significant, why is it not discussed and applied more frequently? Therefore, certain elements of Christine Möller'scurriculum theory, particularly the emphasis on learning goals and curriculum organization, may provide a useful theoretical framework for understanding different curriculum orientations in HE.

Didactics as the Curriculum Theory of Christine Möller

According to Möller (Möller, 1994) *the curriculum* is a plan for the creation and composition of which teaching units will be created and composed. This plan contains statements about learning goals, organization, and control of learning and serves teachers and students in the implementation of the teaching process. The curriculum didactics of Möller represents a didactic approach, which is also known as *a goal-oriented approach*. This approach found its foundations in behaviorist-oriented works (Skinner, 1953) and, as Möller (1994) points out, this model contains the most effective means for building the desired ways of behaving. Goal-oriented curriculum development, which includes the teaching process as a whole, takes place through

1 Christine Möller (born October 12, 1934, in Wiener Neustadt) is an Austrian psychologist and educational scientist. Her work *Learning Planning Techniques* (1968) had a significant influence on German teacher training because it brought the American learning goal research of Robert F. Mager to the German-speaking world. Möller is considered the main representative of curricular didactics in Germany (Hochschularchiv der RWTH Aachen, 1995).

three interdependent processes: planning, organization of learning, and control of learning (Möller, 1994). *Planning of learning* implies a detailed determination of the teaching unit's goals. *Organization of learning* includes the selection and application of the most appropriate methods and strategies to achieve set learning goals. *Control of learning* implies the establishment of control procedures for examining the levels of goal achievement, as well as the success of the application of planned strategies and materials (Ilić, 2020).

Since it is criticized for its time-consuming planning and organization of teaching units, which teachers often struggle to devote to each lesson, and for neglecting certain aspects of the actual teaching process (Winkel, 1994), this curriculum approach has not gained much traction in contemporary education. However, this approach has the potential to overcome its drawbacks, as evidenced by its efficacy, transparency, verifiability, and involvement of parents, teachers, and students. According to Möller (1994), it guarantees precise learning goals, permits competent participation in decision making, and clarifies teaching situations. Knowledge is never complete and educators should invite and enable students to participate in further co-creation (UNESCO, 2021). Möller's curriculum theory emphasizes the importance of permeating learning goals throughout the entire teaching process, where students represent both subjects and participants in teaching, during all stages (Šejtanić, 2016).

Health Education in Primary School Teaching in Western Balkan Countries

The World Health Organization (WHO, 1998) defines HE as a set of consciously constructed learning opportunities that include some form of communication designed to improve health literacy *via* refining knowledge and developing life skills that contribute to an individual's health and community well-being. An important requirement in the implementation of health content is to educate children that the health of an individual is not only personal but also shared; everyone is responsible for others and can influence the quality of public health if they adopt a healthy lifestyle. According to Sharma (2021), learning the content of HE translates what we know about health into the desired way of behaving, while recognizing true life values and encouraging optimal personality development. Hence, some aspects of Möller's model of didactic theory, including goal-oriented planning, structured organization of learning, the alignment between teaching methods with predefined

educational goals, and control of learning goals, represent the most effective means for building desired ways of behaving (Möller, 1994).

In the educational system of former Yugoslavia, HE occupied an important place within primary and secondary education. During the 1940s and 1950s, the subject P&HE integrated physical exercise with health-related topics such as personal hygiene, proper development, disease prevention, and healthy lifestyles. Along with traditional classroom instruction, schools organized practical HE activities in cooperation with healthcare providers and the Red Cross. Educational activities included lectures delivered by healthcare professionals, vaccination campaigns, and widespread students competitions related to health ("What Do You Know About Health") and road safety ("What Do You Know About Traffic"). This historical emphasis suggests a foundational understanding of health literacy as a critical component of holistic education within the region, potentially influencing current curriculum structures and content (Hrg et al., 2023). In Serbia, HE is an inevitable segment of the subject curricula. The compulsory subject of Physical and Health Education (P&HE) was introduced in the first cycle of primary education in 2017 as an initiative to improve the health status of children in Serbia (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026). The goal of this initiative is to promote healthy lifestyles and daily physical exercise. Additionally, health-related material, which is crucial for the development and education of students' health literacy, is studied through other compulsory school subjects, including The World Around Us (WAU) and Nature and Society (N&S).

The subjects P&HE, WAU, and N&S are suitable for the implementation of Möller's goal-oriented approach, as their curricula emphasize collaborative planning, organization, and control of learning, including the involvement of parents and healthcare professionals (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026). The programmes highlight health-related content, monitoring of students' development, respect for individual differences, and democratic communication, creating conditions for active student participation and co-decision-making (Pravilnik o nastavnom planu i programu za prvi i drugi razred osnovnog obrazovanja i vaspitanja, 2018). The flexible number of teaching hours enables teachers to adapt HE to students' abilities and interests, while cooperation with parents and experts further supports the process. In addition to

meticulous planning, the teaching process should include diverse and stimulating methods and tools that support the development of functional knowledge and skills (Matijević, 2013). Möller (1994) emphasized that teaching methods and instruments need to be aligned with planned learning goals, as their appropriate selection directly influences the effectiveness of HE and the control of teaching goals.

As the current state of global health illustrates, there is a pressing need to integrate HE more deeply into schools and communities. Improving school-age children's health and education is essential for the country's long-term prosperity (Auld et al., 2020). Research on the HE curriculum has been extensively conducted worldwide (Auld et al., 2020; Lee et al., 2019; Tomokawa et al., 2021), although it is somewhat less common in Europe (Marchant et al., 2019; Simões et al., 2021). Research on curriculum theory is outdated and deficient (Gudjons, 1994; Ilić, 2020; Lazić, 2008), despite the enormous potential value that curriculum theory can have for HE. Therefore, the novelty of this study lies in its comparative analysis of health-related curriculum content in selected Western Balkan countries, and in the examination of curriculum orientation through the theoretical distinctions derived from Christine Möller's curriculum framework.

MATERIALS AND METHODS

The aim of this comparative study was to analyze the content of the curricula of particular Western Balkan countries (countries that previously were parts of former Yugoslavia) on health themes for the first four grades of primary education, and to assess whether the reviewed curricula primarily align with goal-, outcome-, or content-based frameworks. The data analysis framework of the curricula is presented in Table 1.

TABLE 1. Data analysis of curricula

Subjects	Analytical criteria	Curriculum type
▪ HE subjects and subjects with topics/themes containing health content in the first four grades of primary education	▪ similarities and differences of subjects' curricula in the context of health content ▪ the orientation of curricula in line with Christine Möller theoretical framework	▪ goal-oriented ▪ outcome-oriented ▪ content-oriented

The research conducted a qualitative content analysis of the most recent national curricula from selected Balkan countries, including Croatia, Serbia, Bosnia and Herzegovina, and Montenegro (Kurikulum nastavnog predmeta Priroda i društvo za osnovne škole, 2019; Okvirni nastavni plan i program za devetogodišnju osnovnu školu u Federaciji Bosne i Hercegovine, 2010; Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026; Predmetni program Priroda za 4. i 5. razred, 2017; Predmetni program Priroda i društvo za 1, 2. i 3. razred, 2017; Predmetni program Fizičko vaspitanje za 1–9. razred osnovne škole, 2018; Zakon o osnovnom obrazovanju i vaspitanju, 2017). These documents were retrieved from official governmental and educational websites to ensure the reliability and validity of the data sources. These countries were selected on the basis of their shared cultural, social, and linguistic characteristics, which allowed for a relevant comparative framework. Furthermore, the availability and accessibility of official curricular documents in these countries have enabled systematic data collection.

A qualitative content analysis was conducted on the native language curricula of each country, with particular attention paid to the representation and integration of health-related themes across subject areas. This involved a detailed content analysis of educational documents, focusing on implemented curricula, in order to identify HE components. The analysis focused on curricula for the first four grades of primary education in Croatia, Serbia, Bosnia and Herzegovina, and Montenegro. Documents were analyzed according to predefined analytical categories derived from curriculum orientation literature and Christine Möller's theoretical foundation. Thus, analysis included the following criteria: 1) similarities/differences in health themes covered in subject curricula and 2) the orientation of curricula – whether goal-, outcome-, or content-oriented – analyzed in line with Christine Möller's conceptual framework and curriculum literature. A curriculum was classified as: *goal-oriented* when official curriculum documents explicitly formulated broad educational goals

that guided the selection of content, learning activities, and assessment procedures; *outcome-oriented* when learning outcomes or competencies were clearly specified and used as primary reference for curriculum organization and assessment; *content-oriented* when curriculum documents predominantly prescribed teaching topics, units, and content without systematic emphasis on educational goals or learning outcomes. This foundation served as an analytical lens to evaluate how health topics are framed in terms of educational aims and pedagogical approaches. Table 2 shows a checklist based on Christine Möller's theoretical framework. The presented criteria were applied consistently across all analyzed curricula.

TABLE 2. Checklist for curriculum analysis based on Christine Möller's theoretical framework

Analytical category	Indicators	Present	Partially present	Not present
Curriculum orientation	Goal-oriented			
	Outcome-oriented			
	Content-oriented			
Representation of health themes	Hygiene and personal health			
	Nutrition and healthy lifestyle			
	Physical activity			
	Mental health			
	Organ systems and body functions			
Curriculum organization/planning of learning	Subject-based			
	Concept-based			
	Cross-curricular			
Organization of learning	Teacher-centered			
	Student-centered			
Control of learning	Assessment guidelines			
	Monitoring of learning goals/outcomes			

Legend. Present – the indicator was explicitly and systematically represented within curriculum documents; Partially present – the indicator appeared in certain subjects, grades, or sections of the curriculum but was not consistently represented; Not present – the indicator was not identified within the analyzed curriculum documents.

Data coding and interpretation followed standard procedures for qualitative content analysis, including data familiarization, theme identification, and cross-national comparisons. The analysis primarily followed a deductive content analysis approach. The analytical categories were defined in advance on the basis of Christine Möller's theoretical framework and relevant curriculum literature. During document examination, additional descriptive observations regarding health themes were recorded to support cross-national comparisons; however, the classification of curriculum orientation relied on the predefined analytical categories. The coding process was conducted by the authors through repeated reading and cross-checking of curriculum documents. To enhance analytical consistency, coding decisions were reviewed multiple times and compared against the predefined analytical criteria. Ambiguous cases were resolved through discussion among the authors until consensus was reached. The results were synthesized to highlight both similarities and differences in HE across the selected curricula, with the aim of contributing to a broader understanding of how health topics are conceptualized and implemented in educational systems with similar regional characteristics.

RESULTS

The Analysis of the HE Curriculum in the Republic of Croatia

The Croatian educational system organizes the curriculum into teaching areas/concepts, cross-curricular themes, and different subjects, which enables the systematicity, connection, and better understanding of concepts. In accordance with the Curriculum for Primary School (Nastavni plan i program za osnovnu školu u Republici Hrvatskoj, 2019), every subject in the Croatian curriculum is organized according to areas or concepts. Each concept is elaborated on according to the educational outcomes, which are elaborated and described for each subject. It is also defined as what is expected from students at each of the four levels of their performance (satisfactory, good, very good, and exceptional). Furthermore, the content and recommendations needed to achieve each outcome are described. According to the Rulebook (Nastavni plan i program za osnovnu školu u Republici Hrvatskoj, 2019), the concepts of the subjects are connected with cross-curricular themes: *Personal and social development, Civic upbringing and education, Health,*

Sustainable development, Learning how to learn, Entrepreneurship, and *Use of information and communication technology*. Health content pervades all subjects and is particularly highlighted through the cross-curricular theme *Health* (Kurikulum za međupredmetnu temu Zdravlje za osnovne škole i srednje škole, 2019). In this theme, the contents are realized through three domains: knowledge, skills, and attitudes, with recommendations for achieving the results as well as the key contents of the theme. The key contents of the cross-curricular theme *Health* are highlighted by cycles; however, for the purposes of this research, only the first two cycles of primary education are shown: 1st cycle - 1st and 2nd grade, and 2nd cycle - 3rd, 4th and 5th grade (Figure 1).

Phisical health

First cycle
A healthy plate; The first morning meal; Water as the healthiest and most important drink, healthy water; Physical activity in everyday life; Correct body posture; Personal hygiene and environmental hygiene

Second cycle
The importance and meaning of proper nutrition; Choosing appropriate regular physical activity in everyday life; Sexuality as an integral part of human life/ growth and development from conception to puberty; Body, face and genital hygiene during puberty; The importance of sleep and rest in coping with daily obligations at home and at school

Mental and social health

First cycle
Polite behavior (greeting, address); Appropriate attitude of the child towards adults; Adequate attitude of adults towards the child; Feelings; Respect for own and others' feelings, self-control of feelings; Recognizing the basic types of violence in the real and virtual world, learning to seek help; Sexual violence; Diversity and diversity among people and in nature; Solidarity; Adjustment to school; Game, free time; Self-activity in preserving health; The importance of physical activity, creativity and art

Second cycle
Changes in pre-puberty and puberty; Self-esteem and confidence; Collaborative relationship, tolerance, acceptance and appreciation; Assertiveness; The right to choose -> the right choice; Right to own opinion; Types of communication, concept of active listening; Peer relationships (peer pressure), inappropriate peer behavior; Violence; The role of the family in dealing with the problem of violence; Sexual violence; Ways of dealing with violent behavior and reacting to it; Environment, impact on health, especially on mental and social health; Coexistence with animate and inanimate nature; Possibilities of selection and impact on students' mental health; Physical ---> mental and social health, the worst consequences of addictive behavior on mental health and its reflection on social relationships; Types of addiction; Risk and protective factors; The role of the media (rules of conduct on the Internet); The advantage of healthy lifestyle habits

Help and self-help

First cycle
Traffic safety on the way to school, rules of behavior for pedestrians, cyclists, skaters and roller skaters; Correct and safe behavior in traffic; Dangers in everyday life - risks and protection; Proper and excessive use of the screen; First aid for bleeding, falls and surface injuries, including minor bums and frostbite; Handling body fluids, sharp objects

Second cycle
Traffic rules and dangers; Dangers in everyday life with an emphasis on swimming and water surfaces - risks and protection; The most common acute and infectious health disorders at school age - correct and excessive use of the screen; How to protect yourself and others; Procedures for first aid and helping students who need help - specifically related to the needs of students with developmental disabilities and chronic diseases who attend a certain class department; When and how to seek medical help (nosebleeds, injuries/falls, acute respiratory diseases, acute intestinal infections, elevated body temperature)

FIGURE 1. Health content through domains in cross-curricular theme *Health* in primary education in Croatia

According to the data shown in Figure 1, the areas/domains in the organization of the curriculum of cross-curricular themes are *Physical health, Mental and Social health,* and *Help and Self-help.* Learning outcomes of the cross-curricular theme *Health* is realized as separate topics or as part of other thematic units. Certain subjects, such as N&S and Physical and Health Culture (P&HC), are directly related to the outcome of this cross-curricular theme (Kurikulum nastavnog predmeta Priroda i društvo za osnovne škole, 2019; Kurikulum nastavnog predmeta Tjelesna i zdravstvena kultura za osnovne škole i gimnazije, 2019). Growth and development, nutrition, hydration, movement, and student hygiene are the foundations for accomplishing the goals of the cross-curricular theme of health in the teaching subject of P&HC. In the teaching of N&S, personal healthcare, movement in extracurricular activities, and students' practical projects all impact the development of fine motor skills, promote awareness of the value of health and being in nature, and enhance the content of P&HC. However, other subjects also have the obligation and responsibility to integrate and implement health content and content of health importance (Kurikulum za međupredmetnu temu Zdravlje za osnovne škole i srednje škole, 2019).

The Analysis of the HE Curriculum in the Republic of Serbia

The Serbian curriculum is both goal- and outcome-oriented. Health themes in Serbia's curriculum are organized in the form of enumerated teaching content. The first cycle of education in Serbia includes different subjects that cover health content. For the first and second grades of primary education that is the subject WAU, while for the third and fourth grades, it is subject N&S (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026). The P&HE subject is taught in all four grades of primary education. This subject evolved from the former Physical Education (PE) by incorporating additional health-related content, such as physical activity and sports, development of motor skills, and topics on healthy lifestyles. In accordance with the rulebooks on the teaching and learning plan for the first cycle of primary education in Serbia, health themes are implemented for all mentioned subjects. The health themes covered in the subjects' curricula for the first four grades of primary school in Serbia are shown in Figure 2.

PHYSICAL AND HEALTH EDUCATION

1st grade:
Know your body; We are growing; I see, I hear, I feel; My health; Who cares about my health; Personal hygiene; Hygiene of the space where I live; Hygiene of the space where I practice; Foodstuffs and proper nutrition; Together at the table

2nd grade:
My health and exercise; The muscles, joints and bones of my body; Physical development; Personal hygiene; Hygiene of the exercise area; "Colorful and varied meal" - proper nutrition; The importance of water for the body and exercise

3rd grade:
My heart - pulse; Breathing and exercise; Hygiene of the exercise area; The importance of fruits and vegetables in the diet; The importance of water for the body and exercise; Procedure in case of injury

4th grade:
Correct posture and health; The importance of exercise for the proper functioning of the heart and lungs; Muscles and joints of the body; Hygiene of the exercise area; Nutrition and exercise; Importance of medical examinations for exercise; Procedure in case of injury

THE WORLD AROUND US

1st grade:
Basic feelings - joy, fear, sadness and anger; Basic life needs - breathing, food, water, sleep and the need for the toilet; Similarities and differences in gender, age, abilities and interests; Healthy lifestyle - housing, clothing, nutrition, personal hygiene, work, rest; Human body - parts of the body (head, trunk, arms and legs) and senses (sight, hearing, smell, taste and touch)

2nd grade:
Healthy lifestyle: body hygiene, varied diet, number of meals, spending time in nature and physical activity; Functions (roles) of body parts of living beings

3rd and 4th grade:
/

NATURE AND SOCIETY

1st and 2nd grade:
/

3rd grade:
Ways of transmission and measures to protect against infectious diseases (influenza, infectious jaundice, chicken pox) and diseases transmitted by animals (ticks, lice)

4th grade:
Human being - a natural, conscious and social being; Physical changes in puberty

FIGURE 2. Health themes with contents for the first cycle of primary education in Serbia in subjects P&HE, WAS and N&S

Analysis of the results revealed that health themes in the curriculum of Serbia include the training and education of students about a healthy lifestyle, healthy diet, physical activity, personal hygiene, some aspects of first aid, and mental health. Students' knowledge of human anatomy corresponds to their developmental level. However, the amount of knowledge that children currently have about their internal organs can be improved by introducing adequate health content, which is available in school education programmes (Sterk & Mertin, 2016). In Serbia, in addition to the cardiovascular system, there are also contents of the skeletal and muscular systems, whereas the digestive, urinary, and reproductive systems are almost completely omitted.

The Analysis of the HE Curriculum in the Federation of Bosnia and Herzegovina

The Bosnian curriculum for primary schools is primarily content-oriented. As in the Serbian curriculum, health themes in the curriculum of Bosnia and Herzegovina are organized in the form of enumerated teaching content. In accordance with the Outline curriculum and programme for nine-year primary schools in the Federation of Bosnia and Herzegovina (Okvirni nastavni plan i program za devetogodišnju osnovnu školu u Federaciji Bosne i Hercegovine, 2010), health themes are implemented within the subjects P&HE and My surroundings, with contents listed for every theme. The recommendation given by the Outline curriculum and programme (Okvirni nastavni plan i program za devetogodišnju osnovnu školu u Federaciji Bosne i Hercegovine, 2010) is to develop these topics in the context of phenomena and processes of interest to students, while considering the evolution of science, its application and use, the impact on society and the environment, and while employing active learning methodology. The selected health themes for the first cycle of primary education in Bosnia and Herzegovina are shown in Figure 3.

PHYSICAL AND HEALTH EDUCATION

1st grade:
Proper nutrition (choice of healthy food, combining it in a meal, dynamics of meal intake, volume of meals, behavior and manners at the table); Health (significance and importance of health, physical activity, being in nature and health, daily rhythm of rest and work); Hygiene (personal, collective and living space hygiene); Sources hazardous to health (options for personal protection); Socializing (getting to know each other - making verbal and physical contact, sharing personal experiences); Getting informed about the harm (tablets, plants, drinks, air. ..)

2nd grade:
Our body; Personal hygiene; Healthy teeth; Healthy diet; The onset of disease - how Lo preserve health; Healthy spine and skeleton; Healthy environment and health; Consequences of taking drugs, alcohol and tobacco; Importance of physical activity and recreation for health; The importance of play and joy for health; The importance of the school environment for health

3rd grade:
The basics of a healthy life; The necessity of maintaining personal hygiene; The importance of physical culture; Harmfulness of smoking, alcohol and drugs; The positive influence of the sun, air and water on the organism; Proper breathing and selfmassage; Ways of monitoring changes in their development (measuring body weight, height and pulse)

4th grade:
Family health; Healthy living environment; Nutrition; Human relations between the sexes, interpersonal relations; Mental health; Injuries, and various risk factors; Relationship between a health worker and a patient; Protection against disease

MY SURROUNDINGS

1st grade:
School (hygiene at school); Family (hygiene at home); Our body (awareness of my body, hygiene, hygiene products, nutrition)

2nd grade:
School (hygiene at school); A man and nature (body parts, taking care of health, awareness of my body, hygiene, hygiene products, nutrition, senses)

3rd grade:
Personal hygiene; Hygiene and housing culture; Health (health institutions, healthy diet, tobacco, alcohol and drugs)

4th grade:
Nature and nan1ral processes (human being: a natural and social being); Hygiene (clothing and footwear, rest and recreation as a hygienic need, disease-causing agents - enemies of health, culture of living)

FIGURE 3. Health themes with contents for the first cycle of primary education in Bosnia and Herzegovina in subjects P&HE and My surroundings

The analysis of the curriculum showed that the contents of HE in the Federation of Bosnia and Herzegovina do not solely represent the dissemination of information about health but rather learning through games and workshops with an emphasis on prevention, which ought to fulfill the health needs of students. HE is an active learning process through experiences tailored to individual and communal needs, with the goal of making health a valued social value, assisting the child to become responsible for his own health, and improving the development and use of health services (Okvirni nastavni plan i program za devetogodišnju osnovnu školu u Federaciji Bosne i Hercegovine, 2010).

The Analysis of the HE Curriculum in the Republic of Montenegro

The Montenegrin curriculum for primary schools is primarily content-oriented. Health themes are organized in the form of enumerated content and concepts. In accordance to the Law on Primary Education (Zakon o osnovnom obrazovanju i vaspitanju, 2017) and subject programmes in Montenegro (Predmetni program Priroda za 4. i 5. razred, 2017; Predmetni program Priroda i društvo za 1., 2. i 3. razred, 2017; Predmetni program Fizičko vaspitanje za 1–9. razred osnovne škole, 2018) health themes are implemented within the subjects Physical Education (PE), N&S (in 1st, 2nd and 3rd grade) and Nature (in 4th grade) (Figure 4).

PHYSICAL EDUCATION

1st grade:
Hygiene; Rules for maintaining hygiene in physical exercise
2nd grade:
Hygienic habits in physical exercise
3rd grade:
Maintenance of hygiene and care of equipment in Physical Education
4th grade:
Personal hygiene; Hygiene of the space; Proper nutrition

NATURE AND SOCIETY

1st grade:
Health care; utrition; Physical activity; Personal hygiene
2nd grade:
Changes in a human being (change in baby teeth, height, weight); The importance of physical activity and rest (parts of the body, senses); Care for health and nutrition; Excretion
3rd grade:
Most common diseases, prevention, treatment
4. разред:
/

NATURE

1st, 2nd and 3rd grade:
/
4th grade:
Human being; Bones and muscles; Digestive organs; Food and nutrition; Excretory organs; Senses; Brain

FIGURE 4. Health themes with contents and concepts for the first cycle of primary education in Montenegro in subjects PE, N&S and Nature

As shown in Figure 4, health themes such as personal hygiene, proper nutrition, and physical activity can be found in all subjects and grades of the Montenegrin curriculum. The human body and its organ systems are the primary focus in the subject Nature, whereas nutrition, hygiene, and physical activity are given the most attention in the other two subjects. Similar to other Western Balkan countries, there is no specific subject that would focus exclusively on HE, but the health themes are distributed by subject and are integrated with other contents. This curriculum structure is comparable to the Croatian curriculum, which does not have clearly defined or prescribed teaching units or topics. Instead, teaching is conceptually organized, giving teachers the freedom to plan and select topics and activities based on the curriculum of each individual subject while honoring the knowledge, skills, and interests of the students.

The Comparison of the HE Curriculum

Recent health problems have seized the world, indicating the importance of health topics and HE, particularly among younger populations. Figure 5 shows a comparison of the curricula of the mentioned countries, with the key similarities and differences in the curricula highlighted and summarized.

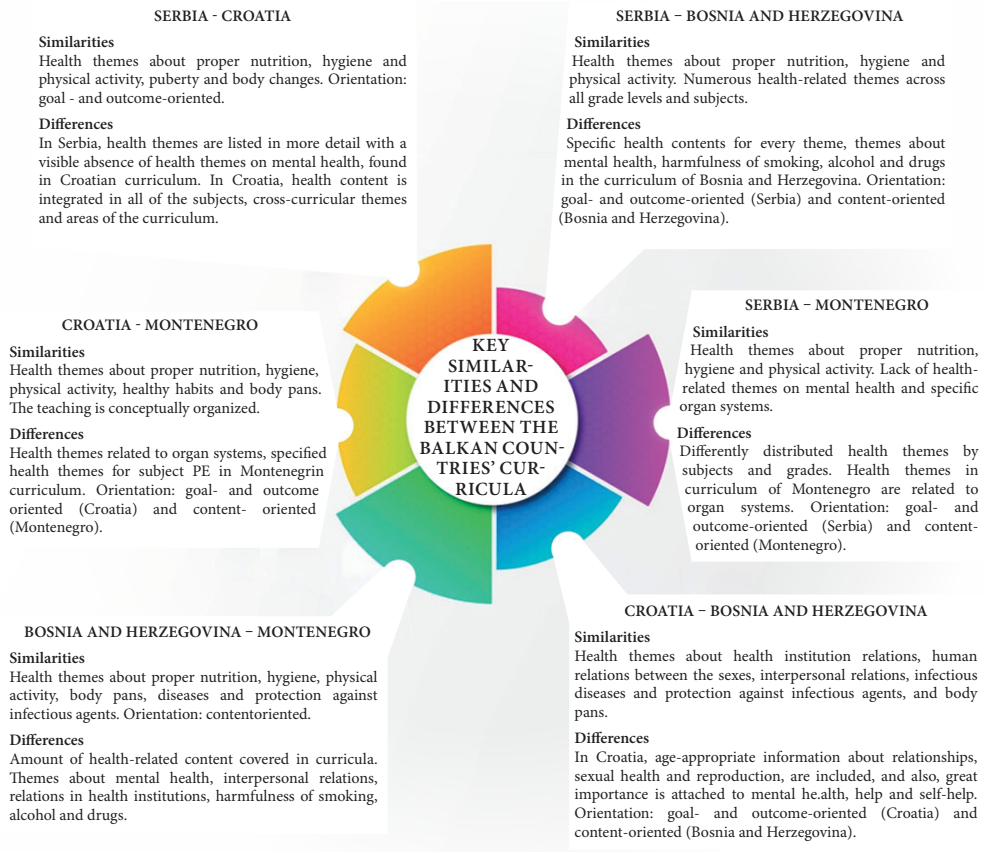

FIGURE 5. Key similarities and differences between the Balkan countries' curricula

According to the content shown (Figure 5), health themes related to proper nutrition, hygiene, and physical activity, which run through all four grades of primary school, are common to all curricula in Western Balkan countries. Health themes in the curricula of all countries are distributed differently across classes and subjects, whereas some themes are repeated across classes in some curricula. The main difference is given by the Croatian curriculum, which mostly integrates health content into the cross-curricular theme *Health*, the educational outcomes of all subjects, and areas of the curriculum.

DISCUSSION

The importance of incorporating HE into school curricula has been emphasized and recognized globally (UNESCO, 2021; WHO, 1998, 2007). Many studies have shown that HE curriculum design has a significant impact on educational outcomes and overall health (Akera et al., 2022; Lee et al., 2019; Marchant et al., 2019; Tomokawa et al., 2021). Our analysis of the curricula of the Western Balkan countries revealed numerous shared health-related themes, particularly those concerning proper nutrition, hygiene, physical activity, and healthy lifestyles, indicating a common emphasis on promoting students' well-being across educational systems. However, significant differences were identified in the organization and orientation of HE content, with some curricula being more goal- or outcome-oriented, while others primarily followed a content-oriented approach. This comparative analysis of the Western Balkans curricula has shown that the educational system of Croatia organizes the curriculum into teaching concepts, unlike the other mentioned countries, which organize their curricula in the form of enumerated teaching content within teaching themes. The curriculum of Croatia prescribes the course of curriculum development for each subject in a similar way as suggested by Möller (planning, organization, and control); however, the curriculum is not planned in relation to the goals but in relation to learning outcomes. These results suggest that the Croatian curriculum provides a structure that may allow greater flexibility in lesson planning due to its emphasis on learning outcomes and conceptual organization. Thus, the Croatian curriculum has the highest potential for application of curriculum theory.

According to the analyzed content (Figure 5), visible differences can be found in the curriculum of Montenegro, which contains health themes related to organ systems, especially the excretory, digestive, and nervous systems (more precisely, the brain and its role). In this regard, Montenegro's curriculum corresponds to Serbia's curriculum, with the common absence of themes on mental health and specific organ systems such as the reproductive system. In addition to the fact that the Croatian curriculum differs from other curricula in its significance in cross-curricular themes, it is crucial to highlight how much it emphasizes mental health and its preservation as well as student assistance and self-help. The integration of health content across subjects and cross-curricular themes may support comprehensive HE; however, the actual effects on students' knowledge, values, skills, and attitudes cannot be determined from curriculum analysis alone. This curriculum structure appears

to provide opportunities for teacher autonomy in curriculum planning, although the extent to which such opportunities are utilized in practice was not examined in this study. According to the Curriculum and Programme for Primary School in the Republic of Croatia (Nastavni plan i program za osnovnu školu u Republici Hrvatskoj, 2019), the focus is on the learning goals and outcomes that should be accomplished rather than the teaching content, which is consistent with curriculum theory. This statement reaffirms the earlier assertion that the Croatian curriculum prioritizes a global approach to teaching themes over a comprehensive list of all teaching content. According to the same source, planning and implementing HE for students in primary schools is one of the fundamental goals of general education in Croatia. Teachers create a curriculum at the start of the school year, adjust outcomes as needed throughout the year, and evaluate results at the end of the plan for the next academic year. This cycle (planning, organization, and control) largely resembles the phases described in Christine Möller's theory. Therefore, Möller's theoretical framework may be applicable in understanding the structure and organization of the Croatian curriculum, particularly regarding its orientation toward learning outcomes, continuous evaluation processes, and curriculum organization.

The analysis of Bosnia and Herzegovina's curriculum has shown that it is extremely rich in health-related themes. From an early school age, students acquire knowledge about their own bodies and particular parts, various health-harming factors, and mental health, which is not covered in any other curricula. The Bosnian curriculum is the richest of all the mentioned countries' curricula in terms of health themes, which proves its intention to focus on learning/teaching content. Similarly, Montenegro's curriculum is content-oriented, as evidenced by its extensive list of health themes spread across classes and subjects. The obtained results indicate that both curricula shift the emphasis from learning goals to learning content, which is contrary to the curriculum theory and Croatian curriculum that focuses on learning goals and outcomes. The presence of detailed and content-based curriculum structures in Bosnia and Herzegovina and Montenegro may reflect a more prescriptive approach to curriculum organization. Democratization of the teaching process is an important component of curriculum theory (Möller, 1994), and it is critical in HE to improve both health and educational outcomes (Akera et al., 2022; Laslo et al., 2023; Lee et al., 2019; Marchant et al., 2019; Tomokawa et al., 2021). Co-decision-making and democratization in the organization of the teaching process, where students represent subjects and participants in teaching during all its

stages (Möller, 1994), is something that all researched countries strive for but have not yet fully achieved. This could be due to the reluctance to relinquish control over the teaching process as well as the time inefficiency of such an approach.

Further analysis of the curricula has shown that the Serbian curriculum is slightly more complex and similar to the Croatian curriculum, which originates from the emphasis on learning goals and outcomes, which is why the Serbian curriculum offers the potential for curriculum theory application; the learning goals related to HE focus on establishing and maintaining healthy lifestyles, raising awareness of the value of one's own health, and the necessity of fostering and improving physical abilities. The complexity of the Serbian curriculum arises from the fact that teaching and learning programmes in Serbia are based on the overall goals and outcomes of education and upbringing (Zakon o osnovama sistema obrazovanja i vaspitanja, 2025). The Law (Zakon o osnovama sistema obrazovanja i vaspitanja, 2025) emphasizes, among general goals of education, "developing and practicing healthy lifestyles, awareness of the importance of one's own health and safety, and the need to nurture and develop physical abilities", while "responsible attitude toward health" is defined as one of the general cross-curricular competencies within the national educational framework. Additionally, the curriculum is based on the needs and skills of the students, although there is still a strong reliance on content, as evidenced by the extensive inventory of health themes present through classes and subjects. According to the rulebooks on the teaching and learning programmes (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026), the content serves to achieve the outcomes that are defined as the functional knowledge of the student, demonstrating students' ability to do, undertake, and perform as a result of the knowledge, attitudes, and skills that were built and developed throughout each year of education. Health-related outcomes are present across the subjects, for example, within the subject WAU, students are expected to "maintain personal hygiene to preserve health", "express their basic life needs for food, water and going to the toilet in a timely and appropriate manner", and "recognize the role of the senses in daily functioning". In the subject N&S, outcomes include the ability to "apply measures to protect against infectious diseases" and to "associate changes in the appearance of the body and behaviour with growing up". Furthermore, within P&HE, students are expected to "use healthy foods in their diet", "connect different exercises with their impact on health", and "recognize health

conditions in which exercise should be avoided" (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026). Programmes designed in this manner indicate that achieving a goal leads to the development of general and subject-specific competences, as well as essential competencies. The role of the teacher is critical in achieving goals and outcomes because they have significant freedom in choosing and connecting content, teaching and learning methods, and student activities (Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026).

Over the past two decades, education policy has largely shifted towards a learning outcome-oriented approach in curricula and assessment worldwide (Mølstad & Prøitz, 2018). In line with this trend, a recent study in Europe (Simões et al., 2021) demonstrated that curriculum planning based on learning goals and outcomes, found in RESCUR (Resilience Curriculum for Early Years and Primary Schools in Europe) curriculum (Cefai et al., 2014), provides favorable results. RESCUR is a global curriculum aimed at developing resilience in early education and primary schools, designed by a European team, while taking into account cultural diversity within the European setting (Cefai et al., 2014). Based on child and teacher reports, the study (Simões et al., 2021) assessed the influence of the RESCUR curriculum, adopted in Portuguese schools, on students' academic, behavioral, and socioemotional results. According to the findings, the RESCUR programme reduced mental health challenges while enhancing prosocial behaviors, physical health, and well-being (Simões et al., 2021). These findings are consistent with broader literature emphasizing the potential value of clearly defined learning goals and outcomes, what in our study was observed for Croatian, and partially for Serbian curricula. These educational objectives aim to support the effective integration of health themes and contribute to students' well-being and healthy lifestyle development.

Learning control mechanisms are important for achieving learning goals (Möller, 1994). In general, in Balkan countries, the control of learning is completed by student achievement evaluation (summative or formative), which measures individual student progress in relation to the previously assessed state. Compared to other Balkan countries, Croatia and Serbia's curricula have more specifically determined control of learning aimed at the achievement of learning goals and outcomes, including systematic assessment of students, the use of various types of

assessment with regard to learning goals, the monitoring of student and teacher self-evaluation, and mutual evaluation of students in the classroom (Nastavni plan i program za osnovnu školu u Republici Hrvatskoj, 2019; Pravilnik o planu nastave i učenja za prvi ciklus osnovnog obrazovanja i vaspitanja i programu nastave i učenja za prvi, drugi, treći i četvrti razred osnovnog obrazovanja i vaspitanja, 2026). The fact that control of learning is not specified for HE in any of the studied Western Balkan countries confirms that the curricula are not entirely in accordance with curriculum theory.

In general, HE in aforementioned countries is taught through a lens that reflects the shared values of community well-being and resilience inherited from the former Yugoslavia, a country that used to be a federal state for all researched Western Balkan countries. All these countries share comparable biological and cultural roots, and their curricula reflect the continuation of a distinct common educational system. Despite these similarities, the pace and extent of curriculum reform vary among these countries, influenced by national priorities and sociopolitical contexts. Croatia is the only country that has adapted its curriculum to align more closely with EU standards, while retaining the aforementioned core elements. While these countries emphasize physical well-being and basic health practices, the extent to which modern health issues are integrated into the curriculum depends on each country's educational reform efforts and public health priorities. Across these nations, the emphasis on promoting healthy habits and preventive measures highlights a continued commitment to fostering the well-being of future generations deeply rooted in their common cultural and educational heritage. Ongoing development reflects each country's efforts to maintain its shared heritage while addressing the demands of modern education.

CONCLUSION

The conducted comparative analysis showed that all analyzed Western Balkan curricula include health-related themes within primary education, particularly topics related to hygiene, nutrition, and physical activity. However, important differences were identified in the organization and orientation of curricula. The Croatian curriculum is predominantly outcome-oriented and integrates HE through cross-curricular themes and subject outcomes. The Serbian curriculum combines

goal- and outcome- oriented elements while still retaining a significant amount of prescribed content. In contrast, the curricula of Bosnia and Herzegovina and Montenegro are mainly content-oriented, with health themes presented primarily though enumerated teaching units and prescribed content.

The findings suggest that curriculum orientation influences the organization and integration of HE within primary education curricula. While these are general trends, it is important to understand that educational approaches can vary within each country owing to factors such as local policies, cultural influences, and individual school practices. The contribution of this study is reflected in providing a comparative overview of HE themes and curriculum orientations in countries with shared educational and cultural backgrounds, an area that has received limited attention in previous curriculum research.

This study is limited to document analysis and does not include classroom observations or analysis of curriculum implementation practices. Future research should therefore examine how HE is implemented in teaching practice and how teachers interpret curriculum requirements in everyday classroom work.

Declarations of interest. The authors declare no competing interests.

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