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Section: ***PREVENTIVE MEDICINE FROM INNOAGON PERSPECTIVE*** *Original Paper*

The 'physiotherapist in every school' project is the first step in replacing the physical education paradigm with the subject of preventive medicine in every type of school – a perspective to improve public health and safety in a rational community

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Dictionary:

Exercise intensity – in order to improve physical fitness, exercise must be hard enough to require more effort than usual. The method of estimating appropriate training intensity levels varies with each fitness component. Cardiovascular fitness, for example, requires elevating the heart-rate above normal [65].

Abilities (motor abilities) – stable, enduring traits that, for the most part, are genetically determined and that underlie a person's skill in a variety of tasks. People differ with respect to their patterns of strong and weak abilities, resulting in differences in their levels of skill [66].

COSI – Childhood Obesity Surveillance Initiative.

HBSC – Health Behaviour in School-aged Children.

PITNUTS – Nutrition of Infants and Young Children in Poland.

Youtuber – a person who records and posts videos on the YouTube website.

Abstract:

Background and Study Aim: Although the paper qualifies for the perspective or open forum category, we edit it as an original paper. The cognitive goal is a hypothesis that we believe to be true: tolerating the paradigm of physical education as a subject in schools of various types is counterproductive with regard to all dimensions of personal health and safety, while the simplest of the necessary interventions in rational communities is the implementation of the 'physiotherapist in every school' project we recommend. The application goal is to intellectually challenge this hypothesis to be verified by both artificial intelligence and unlimited independent research entities.

Material and Methods: The complementary approach takes into account a set of open-formula indicators that cover five sectors, including: critiques of the regulation of primary school education and practical outcomes; rationale from the field of epidemiology and assumptions about necessary changes.

Results: The curriculum criteria for physical education in Polish primary schools are based on the motor patterns of over a dozen sports. The association of health with sport is evidence of profound naivety, after all, death, disability, multiple injuries and the risk of disease complications are calculated into sporting activity. Neither the physiological standards of stimulating the biological development of a child, taking into account the principle of increasing the strength of stimuli with age, nor the standards of care for personal hygiene, nor the motor patterns with utility values from the perspective of personal safety - in situations of unintentional fall, the threat of collision with an object in motion, violence and physical aggression of an individual or a group, etc.) are respected in legislation and in practice.

Conclusion: The rationale and assumptions of the 'physiotherapist in every school' project presented in this thesis are an example of actions useful in the ongoing verification of the hypothesis of the supreme value criteria of global civilisation: 'survival of humanity and nature in a non-degenerate form with responsibility for future generations'.

Keywords: complementary approach, epidemiology, INNOAGON, public health

1. Introduction

Although the priority of the idea of 'physiotherapist in every school' belongs to the fourth author of this work (he presented it at a local conference in Poland on 26 May 2022), the premises and assumptions articulated in this work are already the collective work of the co-authors of the presented project. In accordance with our own professional competences, we provide the argumentation regarding, among other things, certain legal aspects, but above all the epidemiology of events and outright absurdities that are the leading premises of the proposed changes. The alphabetical arrangement of names is also intended to emphasise the fact that the category 'collective first author' is legitimate in the area of evaluating scientific achievements, not only in the case of this publication.

We belong to three generations of researchers and didacticians with educational practice ranging from primary level (and in a sense paradoxically not in physical education, but in music and English) through higher education to doctoral and post-doctoral studies. The third author brings, among other things, the experience of having practised as a physiotherapist for many years. The last, a parliamentarian's practice covering public health issues. Thus, the argumentation of this thesis also accumulates the results of participant observation coming from different areas of everyday activity, but each is linked by some aspect of health and personal safety. We do not resolve to what extent personal security overlaps with health in the broadest sense and in what proportions with its different dimensions – somatic, mental, social.

The cognitive objective is a hypothesis that we believe to be true: tolerating the physical education paradigm as a subject in schools of various types is counterproductive with regard to all dimensions of personal health and safety, whereas the simplest of the necessary interventions in rational communities is the implementation of the 'physiotherapist in every school' project that we recommend.

The application goal is to intellectually challenge this hypothesis, which is already a challenge for independent research actors and artificial intelligence.

2. Material and Methods

Regardless of whether this publication would intersubjectively be categorised as perspective or open forum we edit it according to the criteria of an original paper. However, the specific nature of this work means that the 'Results' section includes references to source material and not exclusively to epidemiological data or results from experimental studies.

The complementary approach used, as a basic method of innovative agonology (INNOAGON [1-3]), takes into account a set of open-formula indicators that cover the following sectors: I – legal regulations for primary school education; sector II – evidence that the physical education paradigm in practice does not meet the hygienic and physiological criteria for stimulating the biological development of the child within the framework of compulsory schooling; sector III – semantic layer of the physical education paradigm and practical recommendations evidence of the absurdity of linking health and sport; sector IV – premises from the field of epidemiology; sector V – other participatory observation results.

The most general results based on these criteria, although mainly from Poland, are in our view a simple frame of reference for similar analyses in different countries or local communities.

3. Results

Sector I – legislation on primary school education

Since 2009, the obligation of four hours of physical education (PE) in Polish primary schools applied to students in classes IV to VI and I to III of gymnasium [4]. From 1 September 2019, when gymnasiums were abolished in Poland after 20 years, this criterion applies to pupils in classes IV to VIII. Invariably, in primary schools, classes I to III are the so-called early childhood education implemented in the form of integrated education. This is a model only semantically close to the complementary approach, i.e. the basic, widely understood research and education method INNOAGON [1-3].

Even the most general expert analysis of the recommended content (modelled on the recommendations of the European Parliament and the Council [5]) reveals a lack of elementary consistency in the logical sense and in the translation of the stimulation of biological development, including especially the child's motor potential. Since education is supposed to be integrated, singling out physical education (PE) in this specific period of stimulating the child's development is a clear testimony to ignoring the motor needs of specific children in spontaneous terms, precisely integrated with their other activities (visual arts, music, etc.). It is also a conflict with an elementary principle of pedagogy – the individualisation of education.

According to the core curriculum, a child completing the first year of PE integrated education (this is the very evidence of inconsistency) should be able to: grasp a ball, throw it to a target and at a distance, roll it and tussle it; overcome natural and artificial obstacles (this and the next criterion are beyond reproach); perform balance exercises [6, p. 9].

However, it swarms with asymmetrical stimuli, because how can one not cosset, throw to the basket and at a distance with the dominant hand, etc., and what confidence that the teacher will consistently enforce reciprocity. And yet, at this stage of a child's expected development, the most important things are the motor competences related to the independence of solving everyday activities requiring coordination of movements and spatial orientation. Ball manipulation is neither the only nor the even more accurate criterion for assessing the motor competences emphasised above. These competences are not defined in the core curriculum, yet formal PE only appears from the 4th grade onwards.

Silent are the expectations of the motoric effects related to the independence mentioned above also for the child finishing grades II and III of integrated education. The expected accumulation of motor competences of a third-grader is already heading towards sports activities (lifetime sports): to handle a ball, throwing by catching, catching, tumbling, bouncing and leading it; to ride a bicycle, roller skates; to take part in games, mini-games, field games and sports competitions [4, p. 253, 6].

The other PE recommendations are primarily linked to a vision of motor competence with increasingly strong references to sport, and it does not appear from the Polish sports law that this is a compulsory activity – on the contrary [7]. A third-grade student should: realise a march of at least 15 minutes; be able to perform an abdominal muscle strength test and a lower spine flexibility test; assume starting positions and positions for exercises and perform a forward roll; jump over a skipping rope, perform one-legged and two-legged jumps over low obstacles; be able to perform

balance exercises without an apparatus, with an apparatus and on an apparatus [6, p. 16].

This is precisely characteristic of the criticised PE core curriculum – do some exercises, some activities associated with life sports, etc. No justification in relation to the utilitarian motoricity of everyday life, the motoricity associated with personal safety, as well as the motoricity necessary in human rescue operations and in other difficult circumstances. Somewhat sarcastically – school instils from childhood the irrational social order that the police, fire brigade, ambulance service, etc. are for difficult situations, instead of teaching how to overcome many of them from the earliest years of life. It disappoints the dreams not only of boys but also of girls to be (at least for a while) in such a respectable institution as a school: policeman, fireman, soldier, etc., It deprives the child of the joy that this is the institutional beginning of the fulfilment of his dream.

Leaving aside motor simulations mimicking the activities of police officers, firefighters, paramedics, etc., the most important concern should be for the child's balanced biological development in conjunction with his or her personal safety and everyday motor resourcefulness. In this situation, a new and in many respects attractive perspective of the application of the physiotherapeutic standards of the (ICF) – i.e. at both poles of ontogeny – is emerging *International Classification of Functioning, Disability and Health* [8]. This is one of the key premises of the 'physiotherapist in every school' project (postulate).

The currently established objectives of PE are: to participate safely in recreational and sporting physical activity with an understanding of its importance for health: 1) to participate in health-oriented, leisure- and sport-oriented physical activity; 2) to apply safety rules during physical activity; 3) to learn about one's own physical development and fitness and to practice health-promoting behaviour [6]. The recommended content is only partly in line with such articulated objectives. The student would be expected to perform the Cooper walk/run test without stopping; to perform fitness tests assessing aerobic endurance, postural muscle strength and flexibility and, with the help of the teacher, interpret the result of the measurements; similarly with measurements of body composition indices [6, p. 48].

Sector II – evidence that the physical education paradigm in practice does not meet the hygienic and physiological criteria for stimulating the biological development of the child within the framework of compulsory schooling

During adolescence (from 13 to 18 years of age), stimulating biological development requires increasingly strong stimuli. The implementation of this demand is most conveniently based on weekly and daily cycles. However, while it is not difficult to plan 3 or 4 P.E. lessons per week for pupils in multi-class schools so that they do not accumulate day after day, it takes good will, knowledge and ingenuity to ensure flexibility of physical effort in daily cycles. Otherwise, pupils in these classes, for whom physical exertion (every P.E. lesson) for a semester or more is scheduled immediately after a meal, would a priori have to be included in the risk group for at least gastric complications. In the attached model, such a case applies to Wednesday (Figure 1).

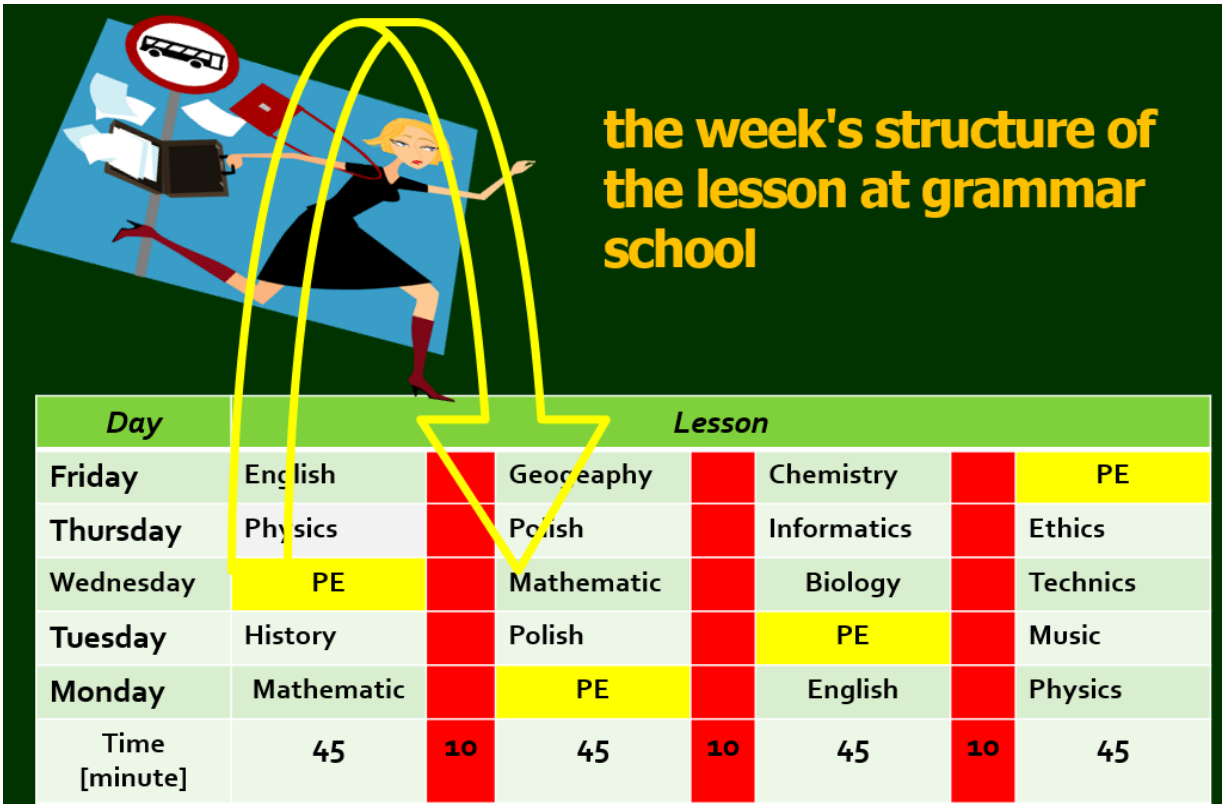


Figure 1. A model for the location of physical education (PE) in the weekly timetable, once in lower secondary school, now in classes VII-VIII of Polish primary school – presented at the 4th International Symposium Youth Sport 20008 The Heart of Europe, Ljubljana, 14-16 November 2008 [9].

An opportunity to respect this demand for flexibility would be the explicitly articulated rigour in the core curriculum of modifying similar patterns of effort distribution in monthly cycles with the explicit caveats of yet other criteria for planning and enforcing muscular effort stimuli.

Firstly, if in a school, especially due to the class size and the quality of the infrastructure, it is necessary to still plan PE lessons (and not preventive medicine workshops) from the first class hour (generally 8am), such a case is only acceptable once a week (as in Figure 1). Similarly with the scheduling of PE lessons immediately after school lunch. On a still P.E. lesson, not a workshop, reducing the intensity of exercise in such circumstances would be a must. In a child, such a habit would be established long before he or she understands the principles referring to the basics of exercise physiology, the biochemistry of nutrition, the cyclicity and alternation of exercise stimuli, deriving pleasure from effort rather than pain, which is the domain of sport, etc. But these are already elements of a PE teacher's, rather than a preventive medicine expert's, competence regarding knowledge that still needs to be able to be passed on to pupils in an effective and attractive way throughout their school education.

Secondly, realisation of such a vision, even if it is to be done by the PE teacher for a long time, is possible on the condition that he/she is given full freedom in the choice of forms and means, as long as the very right, but not respected in the majority of schools postulate of the current PE core curriculum is fulfilled: 'safe physical activity and personal hygiene' [4, p. 253, 6, p. 49]. It is dangerous mainly in the mental dimension by imposing on the pupil sports that do not interest him/her at all, and the

repetition of motor patterns of what is already at the outset not an attraction for the child but triggers a particular form of aversion.

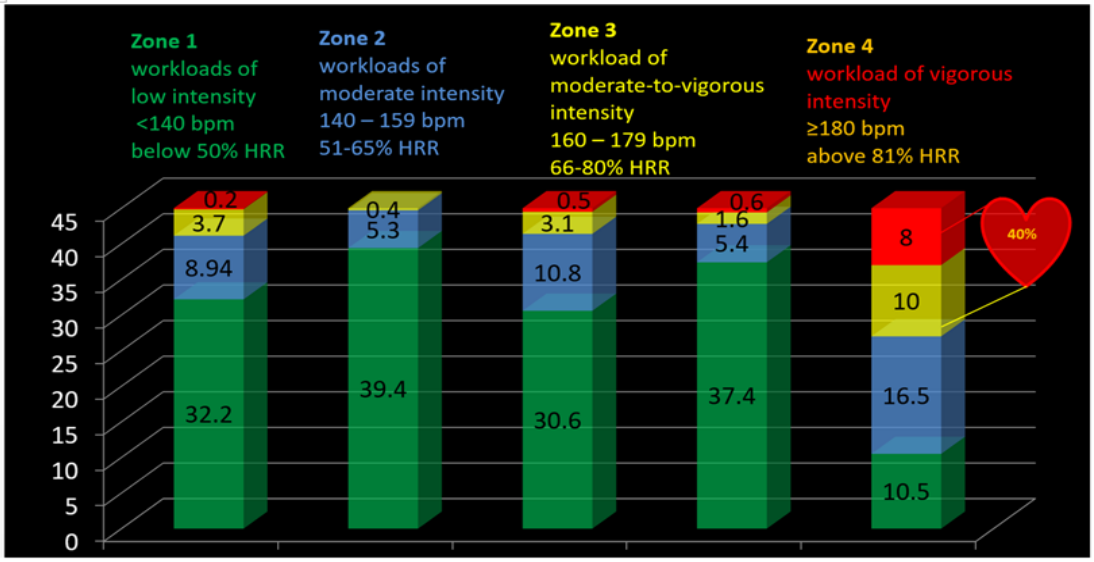
Thirdly, yoga, tai chi are examples of individual forms of physical activity that are suitable for a pupil to be introduced to their basics just when the PE lesson starts shortly after breakfast or school lunch. It remains to be established which primary school class would be most suitable to implement these forms of physical, but also mental, activity. There should be no illusions that the inappropriate time is integrated education in classes I to III.

Fourthly, even if this demand for planning flexibility were met, it would be impossible to lengthen muscular efforts in subsequent years of schooling, as they are limited by the 45-minute P.E. lesson. Increasing the intensity of the effort (measured by heart rate: HR), as a way of compensating for the shortcomings of its limited duration, is limited by biological and mental barriers related to the age of the pupil, but also related to the competence of the teacher and the content of the programme. Certain categories of exercise and sports (e.g. shooting), due to their motor structures, do not ensure that the desired intensity of physical exertion for health and developmental purposes is achieved.

A competent specialist, who is not imposed, especially on these sports by the flawed standards of school teaching, should be required to take care of the variety of forms and means used by using balls, terrain, water, attractive utensils, the resistance of one's own body and especially direct bodily contact with another child. Such a specialist knows how to use them in order to reconcile the rationale of stimulating the child's biological, psychological (mental) and social development in a complementary way with the primum non nocere. He or she knows how to use motor means of varying stimulus strengths with adults in the same complementary way.

It is unfortunate that it is beyond public perception to call this elite group of physical education teachers experts in preventive medicine today. There is an open dispute as to what type of universities should soon be entrusted with the training of such experts so that the use of the professional title 'Doctor of Preventive Medicine' would be legitimate. In the United States, the requirement for the professional title of 'Doctor of Physiotherapy' (PT Doctor) is already a prerequisite for the provision of services in private physiotherapy practice.

Meanwhile, figuratively speaking, PE in Polish schools is a giant sports club with multiple disciplines under the rigour of mastering each (Figure 2) and this practice has a long tradition. For example, Marzena Kuzak, when lower secondary schools in Poland were an institution of the third stage of education, based on six pieces of legislation from 2007 to 2012, recommended a division of hours for the implementation of the PE core curriculum which, under the common heading of 'discipline', included references to nine sports, gym, dance, recreation, physical fitness tests in each of the three grades [10, p. 7]. This is not to criticise the inadequacy of the division in a logical sense, as neither gym, recreation nor physical fitness tests are sports disciplines, but there are attitudes of associating the directive 'dance' with the discipline 'sports dance'.



time (min)	basketball **HR 128.3**	volleyball **HR 127**	track & field **HR 121.5**	gymnastic **HR 116.6**	safe fall & FFMA **HR 143.4**
	type 1 lesson – acquiring and developing skills				

Figure 2. Time (min) and mean heart rate values identified with the four physiological zones of exercise intensity of 13-year-old female students from Poznań during four different physical education lessons of a skill acquisition and development nature [11] and 19-year-old physiotherapy students during a session based on safe falling methodology and fun forms of combat [12].

The irrational 'corset of sports', largely unaccepted by pupils, does not stand up to criticism. This conventional corset, moreover, limits the initiative of even the most creative PE and integrated education teachers. Especially those PE teachers (not necessarily certified as a sports discipline coach or personal trainer) who are competent to use traditional and modern means of motor interaction optimally in every period of the child's natural biological, psychological and social development and to continue this practice with adults up to their old age and in almost any external circumstances. After all, multifunctional gyms are not needed to develop muscle strength. An identical effect can be achieved through exercises with the resistance of one's own body or with the resistance of a fellow exerciser.

Whatever else may be said, the legislator is not calling for the enforcement of physiological effects, which, with today's technological possibilities, are easily measured on an ongoing basis.

In defence of this paradigm, it is possible to downplay the names basketball, volleyball, athletics, gymnastics, etc. by arguing that they are, respectively: ball exercises, field exercises, corrective and preventive exercises, etc. The evidence contradicts the validity of such argumentation. Some teachers fail to provide optimal physiological stimulation for the child (Figure 2). It is not only due to the negligence of the legislator that he did not specify in the rigour of the core curriculum this elementary criterion (intensity of exertion during PE lessons), but only included the directive: 'the student measures the heart rate at rest and after exertion' [4, p. 253, 6, p. 48], Even if the legislator had defined this criterion and teachers had enforced it with due diligence, the PE. planning standards (Figure 1) still do not guarantee the student a sufficiently long break after such an exertion in order to perform appropriate hygienic treatments with elements of wellness and to calm the emotions. Thus, the

replication of the provision 'safe physical activity and personal hygiene' in subsequent documents is also empty [4, p. 253, 6, p. 49]. Furthermore, safe physical activity for students is not synonymous with the concern for personal safety that we associate with their physical activity outside the PE lesson – cushioning an unintentional fall [13-17], avoiding a collision with an object in motion [18, 19] self-defence against violence and physical aggression [20-25], functioning in bodies of water [26], etc.

Calculated according to the recommendations of Tanaka et al. [27], the safe exercise heart rate for a thirteen-year-old is 199 beats per minute and for an eighteen-year-old is 195. Recommendations for optimal health stimuli refer to 70-89% of this safe barrier (HR: 139-177; 137-174, respectively). The just-cited results of a study of thirteen-year-old female students participating in standard PE lessons of the type of skill acquisition and development (associated with sport) reveal, not only the truth that these physiological criteria are not met [11], but furthermore expose the inadequacies of the physical education paradigm also from the previously criticised side.

In the example we refer to below, we maintain complete anonymity so as not to expose a university teacher with a doctorate, a multiple world champion, to reprisals from the authorities of the university where the incident took place. Students of the physical education faculty complained to the rector about this teacher for sweating during his practical classes (based on an attractive sport with high health and utilitarian values).

This event is undoubtedly regarded as one of the unique symbols of a moment in human history that Fritjof Capra [28] has called the 'The Turning Point', unfortunately in a negative sense. Science is powerless to give this turning point a positive connotation. However, it is the duty of scientists fulfilling the social mission of science to inform about such and other pathologies with negative consequences for public health, but also to recommend solutions to the problems with the best possible effect [29,20,30-34,21,16].

Sector III – semantic layer of the physical education paradigm and practical recommendations evidence of the absurdity of linking health and sport

The concepts of health and sport contradict each other, after all, death, disability, multiple injuries and the risk of disease complications are built into sporting activity. Attempts to camouflage this truth take various propaganda forms: 'sport is health', 'sport for all', etc., and some are embedded in legislation – an example is the 'Sporting Talents' Register [7]. This is just another semantic form of the Soviet doctrine of selection for sport – eliminate the non-prognostic.

According to the legislator, among the recommended conditions and modes of implementation of education, from the 4th grade onwards, the appropriate place for PE is playing fields, gymnasiums, etc. and the time is to be devoted to the development of pupils' physical fitness [6, p. 20].

For the adapted physical activity (APA) expert, the appropriate place for the realisation of health-oriented and survival-related physical activities is at least one's own bed, chair, armchair, not excluding stairs (this is a favourite playground of early childhood, and a child will face this problem one day in relation to his/her own child – and we do not mean sets of exercises on stairs, but the knowledge of how to reduce risks when a child links his/her increased activity with stairs), etc. But arranging such and other circumstances of potential hazards can take place in gymnasiums,

playgrounds and any facility for sports, recreation, etc. The use of safe motor simulations is already a core professional competence that, for the moment, should be associated with the integrated education teacher and the physical education teacher. Maybe also with a personal trainer, since the child's education, formally, can take place outside school [35], but certainly with a physiotherapist

If teaching safe falling and defence against physical aggression, it is on soft ground and no gymnasium or court surface is needed. But the core curriculum lacks these key elements of motor safety concerns with a lifelong perspective. The physiological effects of small-surface exercises (an important hygienic, mental and economic factor) based on the safe fall methodology in combination with fun forms of combat (monitored in Figure 2) are not simply derived from this category of exercise, but from the competence of the teacher. A competent teacher will achieve identical physiological effects using balls, motor simulations adapted to the characteristics of the terrain, combining corrective-preventive exercises with simple, safe and attractive motor tasks requiring the involvement of large muscle groups and high intensity movements, etc. But these categories of exercises, although facilitating the manipulation of the intensity of effort, will not provide adaptive effects along the lines of exercises to reduce the risk of injury from falls, or concerning self-defence against violence and physical aggression by peers and anyone else [25].

Somewhat separate, but highly inspiring, is the music teacher's competence in combining motor simulations and preventive exercises during individual sessions with the student. However, against the backdrop of the presented results of observations of the exercise heart rate of 13-year-old girls during PE lessons based on the motor patterns of various sports (Figure 2) [11], it is the results of analogous observations of violin teaching during nine sessions of a nine-year-old pupil that might equally embarrass those PE teachers who conducted the monitored lessons and the legislator.

The pilot experiment was conducted by an experienced music teacher with international and national successes of his students, but also with the methodological competence of an INNOAGON expert with the knowledge and practical experience of measuring, documenting and directing the physical effort of an adolescent violinist. First, he found that at the observed stage of the child's music education (based on a certain set of pieces), the student's highest intensity of playing these pieces (HR = 115) during the first session of the observed cycle was higher than that previously found in herself (HR = 99). This teacher, understanding the negative effects of the violinist's motor specialisation from early childhood, but also the biological laws related to ontogeny and the interactions with many other phenomena, is able, mainly during the warm-up, to apply non-specific exercises in the sense of playing technique on this instrument in such a way that the physiological effects qualify as stimuli to stimulate the child's biological development and to support the artistic quality of this specific motor activity of playing the violin. A parallel effect is the reduction of pain in various parts of the adolescent violinist's body.

An embarrassing factor for the aforementioned subjects is the empirical evidence that the music teacher was able to maintain the intensity of the violinist's non-specific motor exercises in the high intensity zone on two occasions for 3 minutes and during one session for 4 minutes combined [36]. Meanwhile, PE teachers were only able to do so for 3.7 minutes during basketball and 3.1 minutes during athletics [11].

Moreover, this instrumental music teacher was able to arouse the interest of the child and some of the parents participating as observers of the music session to such an extent that they first inquired about the meaning of these non-specific exercises. Soon these parents were voluntarily participating in the warm-up and asking for indications for joint exercises with the child at home [36].

The reported students [11] did not exceed (in terms of mean score) even the lower limit of exercise intensity recommended during warm-up in almost any sport (130-140 HR). If we add that it is common practice for parents to seek a medical exemption for their child from PE lessons, it is difficult to question the validity of our critique of the PE paradigm.

Sector IV – justifications in the field of epidemiology

Obesity and postural defects

This is a problem on the scale of a population disease. According to the PITNUTS study (2024), abnormal body weight affects a proportion of children aged 5 to 36 months (17% among 5 to 12 months and 28.4% among 13 to 36 months), and this is associated with a risk of overweight and obesity in later life [37]. These percentages are similar to those found in 2016, when 32% of children were affected. One in four pre-school children is an overweight child [38]. In Poland, excessive body weight affects one in three early childhood children (33%) with a higher proportion of boys compared to girls (36% vs 30%) [39].

The results of the international HBSC survey on the health behaviour of adolescents aged 11-15 years show that excessive body weight affects 29.7 per cent of boys and 14.3 per cent of girls, a result that is several per cent higher compared to the 2014 edition of the survey [40].

Postural defects are the most commonly monitored health problem among school-aged children and adolescents. The Institute of Mother and Child reports that 90% of children in Poland have postural defects of the spine, feet and knees and, according to the National Health Fund, the number of patients aged 15-17 with a diagnosis of spinal defects increased by more than 15 percent between 2019 and 2023.

Advancement of falls in the ranking of causes of premature death and years spent in disability

Globally (for both sexes, all ages, per 100,000 population) over 31 years (1990-2021) in the category of YLDs (disability-adjusted life years), unintentional fall remains consistently in first place, while in the category of 'deaths' and DALYs (disability-adjusted life years) it has risen from fourth place (1990) to second (2021) in this infamous ranking. Invariably, the leader of these two categories is injuries from road traffic incidents [41].

The World Health Organisation (WHO) estimates that approximately 684,000 people die each year worldwide as a result of falls, and that the consequences of 37.3 million falls, are serious enough to require medical attention. Globally, falls account for the loss of more than 38 million DALYs each year and result in more years of life with disability than transport injuries, drowning, burns and poisoning combined [42].

Violence and physical aggression

In the ranking cited above, interpersonal violence rose from fifth to fourth place [41]. According to data from the report 'Diagnosis of violence against children in Poland 2023' ('Diagnoza przemocy wobec dzieci w Polsce z roku 2023'), the percentage of people who experienced physical violence (from 41% in 2013 to 48% in 2023) and psychological violence (from 28% to 43%, respectively) from peers has increased [43].

According to the 2024 report 'Violence against children in sport' ('Przemoc wobec dzieci w sporcie'), the experience of violence affects 91% of girls and 89% of boys. Harm from fellow athletes was experienced by 83% of those surveyed and from those with care and control by 72%. Among the latter, the coach/coach was by far the most frequently indicated, but also parents, sports activists, assistants, masseurs and team managers [44].

In a sense, this is paradoxical, as the period covered by epidemiological data on the effects of unintentional falls and interpersonal aggression is filled with publications reporting the results of globally unique Polish experiments and recommendations that provide solutions to these problems from the micro to the macro scale (quoted above). The reason for lagging or piecemeal implementations and ignoring such a possibility has long been defined by Alfred Norton Whitehead [45]. This publication proves and provides evidence that after the COVID-19 pandemic, neither the exploration of these issues nor the patient recommendations addressed to the coordinators responsible for the areas of education and public health have ceased [46, 47, 1, 2, 48-54, 3, 55-61].

Sector V – other result of participatory observation

Ineffective prevention of aggression at school

Attending a sporadic lecture on aggression at school was disappointing in the competence of the speaker, who, apart from the knowledge commonly available on the Internet today, presented neither the results of his own research nor accounts of successful interventions in practice working with pupils. Meanwhile, important indicators of the effectiveness of electronic media in educating schoolchildren to aggress and humiliate others are the various forms of interpersonal physical violence (not excluding group against individual) repeated by many students during breaks between lessons. Few of these qualify as play.

It is characteristic that when these forms of violence rather than fun take on the appearance of interpersonal physical aggression, the participants identify themselves with the names or pseudonyms of the people fighting in the cages. An alternative version is the fascination with so-called freak fights promoted on the internet involving celebrities, singers, rappers, youtubers, influencers, among others. The strength of the impact of this negative promotion on the psyche of students is evidenced by shouting out their names (nicknames) in the course of their own aggressive behaviour.

Implemented subject 'health knowledge – health education'

Concern for public health requires exceptional care. The freedom of science (an obvious mental shortcut, since according to reism there are only things and people, and there is no such thing as science) provides the comfort that rationality is the only rationale. For scholars making full use of this privilege, the tool to support self-criticism is either a detailed analysis of the parallel activities of others trying to solve

a problem (in this case public health) or criticism (in the creative sense) in synthetic terms. We are guided by the second option and not because of editorial constraints.

Since the main objective of managing public health problems is to create conditions that facilitate and encourage healthy lifestyles, by definition, one of the most important elements is to be able to control the effects related to health promotion and prevention. This area encompasses the entire ontogenesis, and the most important method – health education – should start from pre-school up to the universities of the third age. The global positive effect of realising this would be evidence that the beginning of this education is firmly rooted in family upbringing.

An attempt to shape desirable health attitudes in the early education system is the work on the implementation of the subject 'health knowledge – health education' in primary and secondary schools in Poland from 1 September 2025 in place of 'upbringing for life in the family'. The work was initiated in 2019, with the formal impetus coming from the initiative of the Patient Ombudsman [62] supported by demands from various pro-health associations. The basis of the argumentation of the motion was to point out that pro-health knowledge is dispersed in many subjects of school education: biology, nature, and even partly included in classes called 'educational'. However, the Ombudsman based his main argument on the statement that Polish society is characterised by poor knowledge of the functioning of the health care system. As evidence of the lack of pro-health attitudes in the everyday lives of Poles, he cited a higher incidence of disease, including multi-morbidity, than in Europe. Missing from this justification were the elementary causes, i.e. what is the subject of our criticism.

The scope of knowledge recommended by the Ombudsman, which should fill the content of the subject 'health knowledge – health education' only complements the project 'physiotherapist in every school', but it will not replace either many years of practice to form the necessary habits with the possibility of current verification of effects, or anticipated health effects and a sense of personal security in adult life. Valuable postulates of transferred knowledge in the course of this new subject include: principles of a healthy lifestyle; rights and duties of a patient; basics of organisation of a health care system; basic knowledge in the field of assistance for chronically ill people; learning about selected disease entities and an outline of ways of their treatment or reaction to an illness (for example, e.g. influenza, cardiovascular diseases, diabetes, allergies, infectious diseases); basic principles of first aid; basic knowledge in the field of balanced nutrition; knowledge about preventive vaccinations and recommended examinations necessary for a given age group.

The right area, not only to familiarise oneself with stress-reduction methods and to assess the consequences of preventive measures, but to consolidate habits is practice, still called PE.

In this document, the postulate referring to the 'importance of sport' clearly has a positive connotation, and should include the truth about sport. Media coverage of sport (a source of common knowledge about this phenomenon) is extremely negative and is a denial of the promotion of health in its every dimension (somatic, mental, social): scandals, aggression accompanying some sporting events, a narrative humiliating the losers in the spoof, admiration for the financial appanages of the stars, etc. Exposing a limited list of concepts from the area of health law, e.g. patient, medicinal product, dietary supplement cosmetic, can be read as an attempt to cover the shortcomings of the subject 'health knowledge – health education'.

4. Discussion

There is no rational reason to link the cause of the widespread abuse of sick leave from physical education classes at school to the ill will of the medical community. Doctors are constrained by the legal order, although logic suggests simple solutions with multi-faceted positive effects linked mainly to public health. For example, a doctor grants an exemption from PE classes in circumstances where, at the same time, he or she directs the child to physiotherapy treatments that do not interfere with the possibility of engaging large muscle groups in exertion, without the risk of harming the part of the body affected by these treatments (e.g. an immobilised finger of any hand due to a fracture is not an obstacle to exercising on a cycloergometer).

Our 'physiotherapist in every school' project aims, among other things, to remedy such situations. The doctor, being sure that there is a physiotherapist at the school, would convert the sick leave into a compulsory consultation with a physiotherapist. The formula for solutions in each school is open – as to the number of necessary APA sessions parallel to PE conducted with the pupil(s) directly by the physiotherapist, and how many under his/her supervision by PE and/or integrated education teachers.

This example of individual interventions is easily exemplified by the macro dimension. Back at the end of the previous century, *The Complete Encyclopaedia of Exercises* [63], translated into other languages, recommended the sports with the most beneficial effects on stimulating human somatic and motor indices. The equal leaders of this recommendation are swimming and wrestling, with slightly smaller effects attributed to judo and karate. In the criticised PE core curriculum, not a word is said about wading exercises and references to combat sports, which we recommend in playful forms with multidimensional qualities, and which have been repeatedly, positively verified for children and adults [20, 31, 33, 34, 16, 25].

The results of a recent study by Solovjova et al. [64] provide important evidence that the patterns of professional swimming training are unacceptable in the area of health stimulation by the sport. Of 12 15-year-old swimmers using hand-fin training sessions, 11 declared experiencing pain in the muscles and joints of the arms and shoulder girdle. This empirical evidence is also important in order to use the term 'water exercise' in the practice still referred to as physical education, instead of referring to the competitive sport of swimming.

We limit our criticism of the PE paradigm in secondary and higher education (60 lessons only during the first year of full-time study, once a week for 90 minutes) to the most general remark: reducing the number of PE lessons in weekly cycles is counterproductive – instead of the goal, its negation is achieved.

We boil down a synthetic answer to the key questions: 1) why a physiotherapist; 2) why 'physiotherapist in every school'? to two simple justifications.

Firstly: physical education studies are dominated by sports motor skills, and asymmetrical sports techniques exacerbate postural defects, or are their direct cause; the mission of medical studies is treatment, not prevention (this course lacks a module dedicated to the practice of motor skills - abstracting from the mandatory one 90-minute lesson in the first year of PE, as in any other course); a psychology graduate has no formal qualification to apply diagnostics, prevention and therapy based on motor activities; the closest thing to a combination of theoretical and motor competence (qualification) is the physiotherapy education standards.

Secondly, we believe that a physiotherapist, regardless of the type of school, would be: (a) the coordinator of promotional, preventive and therapeutic activities in the school, (b) it would be exclusively within his/her competence to recommend physical exercise on an ad hoc basis in every case of sick leave due to musculoskeletal indispositions, (c) he/she would supervise the procedures for diagnosing pupils' posture, which is the responsibility of the physical education teacher, (d) according to his/her additional powers, he/she could conduct workshops with people with certain categories of disability and, in particular, teach safe falling, collision avoidance and self-defence.

In the current legal reality, the competence gap between the educational standards of physiotherapy, medicine, special education, psychology and physical education is filled by the programme offer (research and education) of INNOAGON. Innovative agonology is a new applied science and the proof of its recognition in the global science space is its inclusion, the so-called track, under the name *Preventive Medicine and Innovative Agonology* in the programme of one of the most prestigious cyclical events promoting science – AHFE 2025, Orlando, USA 26-30 July 2025 (Applied Human Factors and Ergonomics).

4. Conclusions

The current reality of ignoring the most important drivers of a child's biological development can be described as a 'vicious circle of perpetrators of irrationality': legislators (along with consultants) – universities subscribing to a counter-effective physical education paradigm – schools (starting with the principal) – regulatory institutions – doctors – parents of the child (legal guardians). It is not surprising that such a powerful 'wheel of irrationality' loses to the Internet, whose little smartphone in the hands of a child is perhaps the best symbol of giving the field to artificial intelligence, i.e. to people who are alien to the hypothesis of the supreme value criteria of global civilisation. The reality is that the good of the child loses out [61]. The good of us all.

The rationale and assumptions of the 'physiotherapist in every school' project presented in this thesis are an example of actions useful in the ongoing verification of the hypothesis of the supreme value criteria of global civilisation: *survival of humans and nature in a non-degenerate form and responsibility for coming generations* [51].

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