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Changing Perspectives on Physical Education in Sweden
Implementing Dimensions of Public Health and Sustainable Development

Peter Schantz
Mid Sweden University, Sweden
The Swedish School of Sport and Health Sciences, GIH, Sweden

Suzanne Lundvall
The Swedish School of Sport and Health Sciences, GIH, Sweden

Abstract

Health was introduced as part of physical education (PE) in Sweden in 1994. This chapter focuses on both transformational processes and the lack thereof in PE and in physical education teacher education (PETE) in Sweden with the introduction of “health.” Prior to that PE focused entirely on different bodily movements for about 170 years, and the demanded changeover has been markedly lagging. At the same time, scientific development within the field of physical activity and health has been strong during the past two decades. Presently, the PETE at The Swedish School of Sport and Health Sciences, GIH in Stockholm, Sweden, is undergoing changes with the aim of creating a merger of perspectives from old, mainly sports-oriented, traditions in PE with newer individual and population health-related perspectives to a wider perspective of physical activity. These new perspectives are framed within diverse dimensions of the environment: for example, how the physical environment affects levels of physical activity and well-being and the need for sustainable development. The rationale for the latter perspective is that the contexts of bodily movement can affect the environment both positively and negatively and are thereby closely linked to both individual and public health. The transformational process described is still in an early state, and clearly future developmental steps are needed, some of which are described in the final section.

Keywords

Public health, physical education, physical activity, syllabus, sustainable development, physical environment, Sweden
Introduction

The rationale for having physical education (PE) in the compulsory school system has changed over time. The same is true for the content of the subject. From being solely a school subject concerning PE, the subject was given a wider task in Sweden in 1994, as formulated in a new syllabus and mirrored in a new name for the subject, sports and health, which, however, is officially translated as physical education and health (PEH). Because PE has a long tradition of being a subject called gymnastics and/or sports, which comprised only PE, it is not surprising that the implementation of the health dimension has lagged severely. This has also been clearly stated in two recent evaluations of PE as practiced in ordinary schools undertaken by the Swedish Schools Inspectorate (Skolinspektionen, 2010, 2012). It is also reflected in the slow adjustments in the content of physical education teacher education (PETE) at central educational institutions, such as The Swedish School of Sport and Health Sciences, GIH, which is the oldest academic institution for PETE in the world. Recent changes in the syllabus at GIH constitute, however, unusual ingredients in a PETE and PE context. A unique dimension includes the positioning of PE and possible consequences of physically active lifestyles in relation to the primary societal aim of a sustainable development (UN World Commission on Environment and Development, 1987). A new national syllabus for PEH from 2011 (Skolverket, 2011) has prompted further developmental steps in this respect and will be described in this chapter. However, to understand the current status of PE, one must know the history of how PE in Sweden has evolved and matured.

History

PE was introduced as a compulsory subject in Swedish schools during the 1800s (grammar school in 1820, elementary school in 1842). The interest for a school subject with a focus on the education of the body grew out of a specific way of thinking about the body and bodily exercise from the late 1700s to the beginning of the 1800s. New forms of physical culture emerged (Annerstedt, 1991; Lundvall & Meckbach, 2003; Pfister, 2003). In Sweden, this thinking was taken up by Per Henrik Ling, who established the Royal Gymnastic Central Institute (GCI, now GIH) and developed a particular Swedish Ling gymnastics aimed at training the body and intellect through bodily exercises. Health was considered to represent a harmonious wholeness (Ling, 1840/1979). Via the setting at GCI/GIH, PETE and school PE became institutionalized (Lindroth, 2004). PE in the curriculum was called gymnastics (see Table 35.1). In terms of bodily movement practices in PE, Ling gymnastics dominated the subject throughout the 19th century and until the 1950s. During the early 20th century, sports and outdoor life were introduced in PE, and after World War II, step by step, sports became the predominant movement practice. Until the end of the 1970s, PE was gender differentiated (Carli, 2004; Lundvall & Schantz, 2013). In terms of legitimizing discourses, the predominance of health and hygiene discourses ended in the mid-20th century and was followed by a more scientific, physiological positivistic-based way of thinking about how the body was to be trained. A pedagogical discourse aimed at social and moral development has been predominant during the later decades (Table 35.1). One, in principle, fundamental change in PE came with a Swedish school reform in 1994. The subject was given a syllabus with a strong emphasis on health. Its name was changed accordingly to sport and health (Idrott och hälsa); see Table 35.1. The time allotted to the subject decreased concomitantly. Research studies during the early 21st century showed that teachers had problems defining the content of health education and how it should be conducted in educational practice. Both students and teachers agree that students show their competence within different
sports, not within knowledge areas such as outdoor life activities, dance, or health (Lundvall & Meckbach, 2008; Quennerstedt, Ohman, & Ericson, 2008).

Table 35.1

*Temporal Overview of Changes in PE Curricula in Sweden: Names, Predominant Content, and Discourses*

<table>
<thead>
<tr>
<th></th>
<th>Gymnastics</th>
<th>Sports</th>
<th>Sports and Health</th>
<th>Sports and Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary/ compulsory</td>
<td>1928</td>
<td>1980</td>
<td>1994</td>
<td>2011</td>
</tr>
<tr>
<td>school, 1820</td>
<td>1969</td>
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<td></td>
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<tr>
<td>school/upper secondary</td>
<td>1970</td>
<td></td>
<td></td>
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<tr>
<td>school, 1842</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ling gymnastics</td>
<td>Ling gymnastics,</td>
<td>Fitness training,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sports and outdoor</td>
<td>sports, social</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>life</td>
<td>interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-sex teaching</td>
<td>Coeducation</td>
<td></td>
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<tr>
<td>Medical health/hygiene</td>
<td>Physiological</td>
<td>Pedagogic</td>
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<td>discourse</td>
<td>discourse</td>
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**Current State of Well-Being of Children and Youth**

The health of Swedish children under age 15 is among the best in the world, and the development in this regard has been positive for the last 20 years (Statens Folkhälsoinstitut, 2011). However, another picture emerges for youth aged 15 to 24. In this age group, the decline in mental health has been pronounced. Several studies have shown an increased incidence of symptoms such as anxiety, unease, stress, and sleeping disorders. Significant differences exist between the sexes. The majority of female students feel stress every day. Stress-induced suffering rises with age (Brun Sundblad, Saartok, & Engström, 2007; Statens Folkhälsoinstitut, 2011). Problems in the school system, with a higher proportion of students leaving compulsory school without qualifying to enter upper secondary school, together with difficulties for youth to enter the labor market, probably contribute to the decrease in mental health. According to the *Public Health Report 2010*, the areas of alcohol, drugs, intake of vegetables, and so forth have developed favorably (Statens Folkhälsoinstitut, 2011). In addition, the curve, from the 1970s to the beginning of the 2000s, of a rising proportion of youth with overweight or obesity has leveled out (Lager, 2009). Around 20% of Swedish children aged 9 to 15 are overweight, and 5% are
defined as obese (Ekblom, 2005). A Swedish longitudinal study (School-Sport-Health) showed that children who are overweight or fat at age 9 remain in this category at age 15 (Ekblom, Bäk, & Ekblom, 2009). Self-reported data indicate that two thirds of Swedish children at age 15 meet the recommendation of 60 minutes of physical activity per day (Engström, 2002, 2004). Over time, the capacity for oxygen uptake remains on the same level as in reference data from 1987 (Ekblom, Oddsson, & Ekblom, 2004; Ekblom et al., 2009). In the Swedish school syllabus, certain standards of achievement concern all-around physical competence. This competence is often mentioned as a precondition for assuming a physically active lifestyle. Studies have shown that among sixth graders, 4 out of 10 had problems with attaining the required competence in gross motor skills and combined movement skills, measured by a qualitative evaluation process (Nyberg & Tidén, 2002, 2008). Whether the trend is toward decreased all-around movement competence among Swedish school children remains to be evaluated because reference data are lacking.

**Current Practices**

After a turbulent period in Swedish school history, the Swedish government decided that a new school reform was needed in 2011 because of the risk of not being able to secure equal education rights for every child. Both teachers and parents, as well as students, campaigned for several years for a clearer curriculum in terms of what teachers were supposed to teach and students were supposed to learn. Regarding PEH, the question was still how it could support education in health and physical activity for society’s growing citizens. All school subjects were given a similar structure. Aims of the subject, central content, and knowledge requirements were defined for School Years 6 and 9. The central content for PEH was termed movement, health and lifestyle, and outdoor life and activities (Skolverket, 2011). In this respect, practical and theoretical knowledge of physical health were emphasized. The aim reads as follows:

Teaching in physical education and health should aim at pupils developing all-round movement capacity and an interest in being physically active and spending time outdoors in nature. Through teaching, pupils should encounter a range of different kinds of activities. Pupils should also be given the opportunity to develop knowledge about what factors affect their physical capacity, and how they can safeguard their health throughout their lives...In summary, the Swedish PEH subject shall give the students the possibility to develop the following competences during compulsory school: (1) to be able to move with all-round competence without restriction in different physical contexts, (2) to plan, implement, and evaluate sports and other physical activities based on different views of health, movement and lifestyle, (3) to carry out and adjust recreational and outdoor life to different conditions and environments, and (4) to prevent risks during physical activities, and manage emergency situations on land and in water. What is also laid emphasis on is that the pupils, through teaching, should develop the ability to spend time in outdoor settings and nature during different seasons of the year to acquire an understanding of the value of an active outdoor life. Teaching should also contribute to pupils developing knowledge of the risks and safety factors related to physical activities and how to respond to emergency situations. (Skolverket, 2011, p. 50)

The syllabus for the voluntary school form, upper secondary school (which is attended by over 90% of Swedish youth), states that sports, outdoor life, and different forms of exercise are important for both individual and public health. Furthermore, it states that the subject should
nurture a cultural heritage of physical activities and that outdoor experiences should provide opportunities to understand the importance of physical activities and how various activities relate to well-being and health. One difference, compared to the compulsory school, is the emphasis on developing abilities to plan and conduct activities that consolidate and further develop physical ability, health, and ergonomic aspects of movement, as well as the ability to spend time outdoors in different environments. Added to this is the goal of understanding the importance of experiencing nature for physical ability and health reasons. Furthermore, the students should be able to take ethical stands concerning gender patterns and equality and identity in relation to sports and exercise (Skolverket, 2011). At present, the time allotment to PEH is two lessons (each 50 to 60 minutes) per week in compulsory school (up to the ninth grade, ages 15 to 16) and one lesson per week throughout three of six semesters in upper secondary school. According to school legislation, students in compulsory school should be offered the possibility of daily physical activity at school (Skolverket, 2003). However, the implementation of this legislation appears to be weak.

The Swedish National Agency of School Education has supported the implementation process in several ways: for example, by producing commentary documents to solidify the central content and how the qualitative levels of knowledge are to be identified and assessed in both a formative and summary manner. Films have been produced for school subjects that are considered to be in danger of not being able to change direction by themselves in relation to the stipulated aims, content, and requirements. PEH is one of these subjects. As pointed out, in Sweden, PEH comprises three main parts: movement, health and lifestyle, and outdoor life and activities. Among these ingredients, practice within the subject is dominated by multi-activity programs and particularly ball games (Lundvall & Meckbach, 2008; Sandahl, 2005; Skolinspektionen, 2010, 2012). One probable reason for this is that PE teachers in normal schools lack pedagogical tools to implement the health and lifestyle component. The same is valid to some extent for outdoor life and activities. In the latter case, the limited time for PEH in the schools also makes open-air outings less likely, particularly in urban areas where the green outdoors can be far away. This prompts reasoning about possible solutions, and in principle, they can be envisioned as being found in PEH or as part of integrated education that makes up PEH and other subjects. The third possibility is to tackle these issues as part of the curriculum goals set for the whole school system. Below we outline the principal thinking and ingredients in new PETE courses aimed at creating both concrete tools and more holistic perspectives that we think can facilitate changes in the practice of PEH in relation to the health and lifestyle component.

Unique Curricular Models and Community Programs

In the development of PETE courses in health within PEH, three points of departure have been important: (1) What are the important and reasonable framing perspectives for this in our time? (2) What are the knowledge perspectives and bases in the relevant research fields of today, and what appears to be emerging, and which of these can be used in PETE and in PEH? (3) What are the concrete and realistic pedagogic tools that can be used in PEH, and which of them should be part of PETE? The analytic needs in relation to each of these topics constitute major challenges. We will indicate examples of outcomes of these processes.

Framing Perspectives

The field of PEH and PETE has a long tradition of having an individually oriented focus. We believe broadening this to include a perspective of physical activity in relation to public health is important. This step allows different dimensions of factors external to the individual to become
relevant. For example, all physical activities require a physical space for their execution, which leads us to dimensions of physical planning for physical activity, which in turn leads us to the dimension of power and politics at local, regional, and national levels. Including a public health perspective also prompts a wider analysis of the consequences of behaviors in physical activity. For example, can aspects of such behavioral practices be negative in relation to public health? For example, if an environmental burden is connected to physical activity behaviors, public health in a local, regional, national, and global perspective may be affected negatively.

A framing perspective that has been used in courses in sport, health, and well-being is “physical activity, public health, and sustainable development.” We will illustrate this perspective with two images. The first represents five points of departures when searching for solutions to physical activity and public health (Figure 35.1). It finds solutions for physical activity within the whole population and considers factors such as age, sex, ethnicity, geography, climate, and that every form of physical activity requires physical space for it to take place. But the solutions must be based on four other points of departure, namely, (1) knowledge acquired from the fields of physiology, medicine, and psychology concerning the relation between physical activity, health, and well-being, as well as (2) ecological, (3) economical, and (4) social perspectives.

**Figure 35.1.** Central points of departure when promoting physical activity in the population. For further explanations, see the text. Model modified from “Rörelse, hälsa och miljö – utmaningar i en ny tid,” by P. Schantz, 2006, Svensk Idrottsforskning, 3, pp. 4–7.

An example of relevant knowledge from the fields of physiology, medicine, and psychology concerning the relation between physical activity and health are the minimum and optimum guidelines for physical activity in terms of volume, intensity, and frequency (Haskell et al., 2007; Oja, 2004; U.S. Department of Health and Human Services, 1996). The economy, ecology, and social aspects stem from the work of the UN World Commission on Environment and Development (1987), as stated in their final report, Our Common Future, in which sustainable development in 1987 was framed as meeting “the needs of the present without compromising the ability of future generations to meet their own needs” (p. 8). A sustainable development is viewed as demanding a concerted action integrating social factors, economy, and ecology. A current standpoint is that sustainable development, for ecological reasons, demands reducing the use of resources (e.g., energy and raw materials) to an average 10% of the present levels within less than one to two generations (i.e., within 25 to 50 years). Thus, resource and energy use is a critical factor when evaluating the physical environment and physical activity from a perspective of sustainable development. For the implementation of these perspectives in a more
concrete arena of thinking about physical activity, we can use the model in Figure 35.2. The basic constituents in the scheme concern the decision for being physically active being dependent on both internal and external factors. The outcomes of physical activity are related to disease, degrees of illness, premature mortality, well-being, and injuries. Adding economic and ecological dimensions affects the perspectives on both physical activity and external factors (Schantz, 2006; Figure 35.2).


The following is an example to illustrate the possible consequences of a certain physical activity. An individual wants to play golf. He or she drives 15 kilometers to a golf course. This demands a lot of energy, which is normally derived from fossil fuels (i.e., the trip will add to the ecological burden through global warming). The person is a member of a golf club that has paid for the construction of the golf course, which demands a lot of watering, pesticides, and energy for its maintenance. The effect of the golf exercise in terms of physical activity can help to prevent diseases and so forth. Thus, connected with this physical activity are different forms of economic costs. Some are connected to external factors; others are coupled to each time a person decides to be physically active. Also, the environmental effects can be evaluated from economic points of view, given the effects on ecology and public health. From a pedagogical point of view, a person can also analyze the sources of energy from food in relation to the energy needs of physical activity. For example, to what extent is the food produced locally and based on solar energy, or to what extent are, for instance, transports connected to this, and what sources of energy are used for them? Thus, to what extent is an environmental burden connected with the nutritional dimension of physical activity? Integrative analyses of this type by no means will
lead to a positive economic, ecological, and public health outcome on local or global levels by all types of physical activity behaviors.

Developments in Relevant Research Fields

The beginning of the new millennium has seen a great number of studies influenced by socioecological models (Sallis, Owen, & Fisher, 2008) for understanding the influences on levels of physical activity. Not least, the relation between the neighborhood environment and levels of physical activity has attracted a number of studies (e.g., Sallis et al., 2009). Furthermore, the effect of the environment on “unwell-being—well-being” when being physically active has attracted studies (Schantz, 2014; Wahlgren & Schantz, 2011, 2012). Thus, a basis for understanding more about internal and external factors of importance in relation to physical activity behavior and environmental well-being while being physically active is emerging. In the transportation sector in many countries, cost–benefit analyses are part of a decision-making culture concerning investments. Therefore, unsurprisingly, the most elaborated calculations of the wholeness depicted in Figure 35.2 come from the transportation sector and are related to analyses of passive versus active transportation (e.g., Saelensminde, 2004). And in line with the needs in this sector, the World Health Organization Regional Office for Europe has recently developed a health economic assessment tool (HEAT) for evaluating the effects of walking and cycling (Kahlmeier et al., 2011). Reports on the effects of active transportation on productivity add to the possibility of making these evaluations (Hendriksen, Simons, Garre, & Hildebrandt, 2010). Another basis for developing a pedagogy in relation to this emerging wider field is the extent to which people in general are physically active in comparison with the minimum recommended levels of physical activity. Our understanding of these matters has recently been advanced in population studies using objective measurements (accelerometry) in both Sweden and the United States (Hagströmer, 2007; Troiano et al., 2008). They suggested that only a small percentage of the adult population in these two countries satisfies the minimum levels of physical activity.

Pedagogic Tools in PEH and PETE

We need pedagogic tools to facilitate partial, as well as holistic, thinking about physical activity, health, and well-being from individual and population perspectives. Framing perspectives and models can be useful as such foundations for students in both PEH and PETE. The models in Figures 35.1 and 35.2 function well from that perspective. Whether our current knowledge of factors within the framing perspectives or models is weak or absent does not, in principle, diminish their value as analytical tools to support partial, as well as holistic, reflections and thinking. But we also need concrete pedagogic tools. Where to start? Given the low percentage of both male and female adults in the Western world (in studies based on Sweden and the United States) who meet the minimum levels of physical activity (Hagströmer, 2007; Troiano et al., 2008), we think that the development of methods that clarify the individual’s level and characteristics of physical activity in relation to these goals is a starting point of distinct value. In line with this, a set of basic tools has been developed for PETE in Sweden.

Log Book Over Steps per Day

The first step is connected with the concept of 10,000 steps per day (Tudor-Locke & Basset, 2004). To make this concrete, each PETE student uses pedometers and counts the number of steps taken during a normal day. They start monitoring the number of steps when they wake up and get out of bed in the morning and end it when they go to bed at night. The day is divided into temporal and spatial segments, with the different forms of activities and places described for each temporal segment. When traveling from Point A to Point B, PETE students indicate
the spatial locations of A and B so as to be able to follow the time–space geography of a day. If a journey is made up of different transportation legs, each leg is described (e.g., walking from home (A) to a bus station (B), taking the bus from B to another station (C), and walking from C to work (D) comprise three different transportation legs). If an individual cycles, the normal placing of a pedometer will not detect movement of the legs. Therefore, we place it instead just below the knee when in a cycling mode. This results in one revolution of one leg creating two counts (i.e., each leg’s revolution will be counted). So, in this fashion, pedometers are turned into bicycle revolution meters. The contribution of each temporal segment is then illustrated in figures, and the accumulation of steps/cycling revolutions can be followed and reflected on. If the student does not meet the demands of 10,000 steps per day, then they create strategies to achieve this.

Spatiotemporal Analysis of Physical Activity in the Neighborhood

One dimension for meeting the guidelines for physical activity is that the minimum of 30 minutes per day of moderate intensity should be accumulated in sessions of physical activity lasting at least 10 minutes (Haskell et al., 2007). For a person to implement this in everyday life, the knowledge of how long a walk is to everyday life destinations, or possible destinations, is important. Because people tend to overestimate both the time of physical activity and the distance when moving from one place to another, they must learn these dimensions. For that purpose, we have developed a simple task for our PETE students. They walk, with a normal speed for “utility walking,” a distance of about 1 kilometer, measure the time consumed accurately, and express it in minutes and seconds. They then map their local neighborhood in terms of destinations they visit during a normal week. The normal route that they take/would take to these destinations if they walked is then mapped out, and afterward, the students measure the distance of each route using a Gmap–pedometer (http://www.gmap-pedometer.com). Based on the velocity of their own walking, they calculate the time needed for these destinations. In this fashion, they get a basis for understanding the extent to which the use of active transportation as part of their everyday life physical activity can contribute to meeting minimum physical activity levels.

Creating a Pedagogy Concerning Movement to School

The third example starts with surveying students to find out how they get to normal schools, the time used, and how they experience it. This is to find a basis for meeting the pupils in their own reality and is an analysis of power relations when needed to change the environment to facilitate active transportation. The students then develop a series of lessons, the aim of which is to teach, within the PEH school subject, as well as through integrative studies with other subjects, about active transportation, health, and the environment in a wider perspective.

Energy Analyses of Walking and Cycling

To combine these different forms of analyses with different forms of, not least, epidemiological research that relates the energy turnover of physical activity to different health outcomes (e.g., Paffenbarger, Hyde, Wing, & Hsieh, 1986), we are in the process of developing a simple method by means of which students of both PETE and PE in normal schools shall be able to estimate the energy turnover when walking and cycling. This opens up a dialogue with the dimension of nutrition and also with all other dimensions of energy, which is a core issue in framing possible pathways forward for sustainable development.
Future Visions

We believe that developing a meeting place between (a) PEH and (b) public health and sustainable development is potentially productive. Such a development no doubt stands for widening the role of PEH, in reality, from only an individualistic approach, to include a wider societal view. PEH is an old subject with strong influences from the external sports sphere, so the path taken no doubt has a number of obstacles. The widening of scope when PE was changed in Sweden into PEH in 1994, which led to a meager implementation of the health dimensions as recently shown by the Swedish Schools Inspectorate (Skolinspektitionen, 2010, 2012), points in such a direction. Thus, further development will take time and demands thoughtful steps ahead. The general aims for the Swedish school system clearly create possibilities for the indicated development of PEH, and in our minds, this brings about possibilities of more interdisciplinary teaching in schools, with PEH as one part of it and with the positive side effect of breaking the present isolation of the subject (Skolinspektitionen, 2010, 2012). One such area is outdoor life education. Another is walking and cycling for active transportation, as well as for recreation and exercise. Given that contact with the natural outdoor environment enables both well-being and lower morbidity, as well as lower premature mortality (cf. Nilsson et al., 2011), outdoor life has a special role in PEH. Outdoor life also has a strong position in the syllabus of PEH, but its implementation is meager (Backman, 2010). Time constraints are often cited as a critical causation factor in this situation. Therefore, a potential solution may be to develop a pedagogy for experiencing and learning about landscapes. This can be developed as an integrative form of pedagogy with other subjects in school, such as geography, history, biology, and political science, and thereby creates more time for these issues and a greater understanding of ecological matters and the relation between man and nature. The basic forms of movement of walking and cycling are not mentioned presently in the syllabus for PEH in Sweden, and considering that the area of movement in the syllabus is not specified, this gives space for walking and cycling to be implemented within the syllabus. Above are steps for developing such a pedagogy within PETE. Taking further steps in this direction is important. And in that respect as well, we believe searching for options for developing an integrative pedagogy with other subjects is also important. Clearly, we are searching for a way to create a path forward in these respects, and we have a long journey ahead of us.

Summary

This chapter briefly overviews the historical development of PE in Sweden and of current practice within the PEH subject, as well as the current health status of children and youth in Sweden. The chapter also presents steps taken to widen perspectives on the role of PE in Sweden. Currently, a potential role of PEH is being explored as part of the challenges societies have in our time to create conditions to support public health, as well to make the fundamental changes needed for sustainable development. For this purpose, we present an arena for viewing and reflecting on physical activity in this wider scope, which includes both individual and general living conditions, as well as preferences for different physical activities, different types of arenas for executing physical activity, recommendations for minimum physical activity levels, and different health outcomes, as well as economic, ecological, and social dimensions. We also present general aspects of recent scientific development, which create a starting point for the development of such a discourse. Finally, we give examples of concrete pedagogic tools that we use in PETE at The Swedish School of Sport and Health Sciences, GIH in Stockholm, Sweden.
We are confident that they are realistic tools to use in PEH in normal schools as well. In concrete terms, they aim to provide experience and understanding of our individual behaviors in relation to the minimum recommended levels of physical activity. This is, in our mind, a basic point of departure after which, step by step, matters concerning PEH and sustainable development can be unravelled.

References


Authors

Peter Schantz is professor in human biology, including the integrative field of movement, health, and environment at the Swedish School of Sport and Health Sciences, GIH in Stockholm as well as guest professor in human movement sciences at Mid Sweden University in Östersund, Sweden. He originally trained as PE teacher at GIH, whereafter he wrote his thesis within the field of exercise physiology at the Karolinska Institute. He then gradually developed an interest in the relationships among the environment, health, and physical activity. He leads a research group in the multidisciplinary field of movement, health, and the environment (www.gih.se/mhe). In later years, this field has focused on studies of active commuting in Greater Stockholm, Sweden (www.gih.se/pacs). In line with this research, he has been the advisor for the World Health Organization (WHO) in developing health economic assessment tools (HEAT) for cycling and walking. He is also the advisor to the Swedish National Institute of Public Health.

Suzanne Lundvall is associate professor at the Swedish School of Sport and Health Sciences, GIH in Stockholm, Sweden. Since 2001, she has been project leader for a longitudinal, multidisciplinary study called School–Sport–Health (SIH) based at GIH. Currently, she is also a coordinator for doctoral studies in the field of physical education and health for active PE teachers. Her research interest is within sport pedagogy and physical education and includes studies of movement traditions and curriculum theory, as well as didactical studies of health education as subject matter content within PE teacher education programs and school PE. She has authored several book chapters and national and international articles and is an editorial board member of the scientific journal Physical Education and Sport Pedagogy (PESP). She has also been a visiting fellow at the School of Human Movement, University of Queensland, Australia.