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# Health literacy in schools

State of the art



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## Background

Addressing children's and adolescents' health literacy is fundamental for sustainable development, societal growth, and health development over the life course.<sup>1-3</sup> Health literacy is a determinant of health, a significant driver in sustaining health equity, and a key empowerment strategy.<sup>4,5</sup> Therefore, the enhancement of health literacy and health competencies should be addressed early on in schools, and the health literacy of both pupils and educators is equally important and must be considered.<sup>6-9</sup>

## What is health literacy and why is it important?

The WHO health promotion glossary defines health literacy "as the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health."<sup>10</sup> Health literacy will enable children and adolescents to:

- access and navigate health information environments,
- understand health messages,
- think critically about health claims and make informed decisions about health,
- acquire health knowledge and use it in new situations,
- communicate about health topics and concerns,
- use health information to promote their own health, that of others, and environmental health,
- develop healthy behaviours and attitudes,
- engage in healthy activities and avoid unnecessary health risks,
- become aware of their own thinking and behaving,
- identify and assess bodily signals (e.g. feelings, symptoms),
- act ethically and socially responsible,
- be a self-directed and life-long learner,
- develop a sense of citizenship and be capable of pursuing equity goals,
- address social, commercial, cultural, and political determinants of health.

Health literacy is not only about individual competencies and behaviour, but includes a holistic approach which incorporates the environment,<sup>11</sup> thereby helping children and adolescents to achieve health and social goals. In this setting, it means that health literacy is context-specific,<sup>2,12</sup> relational,<sup>13</sup> and depends on the conditions of a child's environment,<sup>14-16</sup> which are most likely to determine if a child can acquire and use health literacy to optimally promote health. Schools are formal educational organisations and offer structures that can enable or disable successful education and health promotion processes.<sup>17-21</sup> The structures are largely determined by socio-ecological factors of the environment, school policies, and children's resources. Any sustainable action to strengthen the health literacy of children and adolescents and improve their health and academic outcomes must address the whole school environment.<sup>6,22,23</sup> Targeting the health literacy of school-aged children also



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means including the health literacy of teachers,<sup>24,25</sup> school principals,<sup>26</sup> school staff, and the whole school organisation<sup>27</sup> as well as other actors within the wider socio-ecological school environment (e.g. links to the community including e.g. health, mental health, and social services as well as parents).<sup>27-30</sup>

## Objective

The aim of this SHE Factsheet is to provide an overview of current evidence on health literacy with a specific focus on schools, pupils, and educational staff (including teachers, school principals, and school staff). It intends to inform professionals and organisations working in and with schools (e.g. ministries, teachers, teacher training institutions, stakeholders in school health promotion, educational administrators, and educational policy- and decision-makers) on how health literacy can be addressed as part of the Health Promoting School (HPS) framework at an individual and organisational level. This Factsheet on health literacy in schools follows up on the SHE Factsheet on Health Promoting Schools<sup>31</sup> and has been carried out based on a rapid narrative review.

## Health literacy among school-aged children

Health literacy has been found to be associated with health behaviour and health outcomes in children and adolescents,<sup>32-34</sup> which is why monitoring health literacy and routine collection of data is vital.<sup>6,23,35</sup> The Health Behaviour in School-aged Children (HBSC) study measured health literacy in school-aged children (focusing on different age groups between 11 and 17 years) in ten European countries in 2017/2018.<sup>36</sup> The total health literacy level scores achieved by school-aged children in the HBSC-study (n = 14.590) indicate that 13.3% of the pupils scored at a low level of health literacy, 67.2% of the pupils scored at a moderate level of health literacy, and at 19.5%, almost a fifth of all participating pupils scored the highest level of health literacy.<sup>36</sup> Results for Turkish<sup>37</sup> and Lithuanian<sup>38</sup> pupils were not included in the total scores but were presented elsewhere and have been extracted for depiction in the comparative graph below (see Figure 1). Comparatively, Turkey (18,4%) and Czechia (17,4%) were found to have the highest frequencies of pupils scoring at a low level of health literacy, while Macedonia (38%) and Finland (37,9%) were found to have the highest frequencies of pupils scoring at a high level of health literacy (see Figure 1).<sup>36-38</sup> Almost all countries that included the health literacy scale in their survey found a large proportion of school-aged children reporting to have moderate levels of health literacy ranging between 64% – 75.5% for Turkey, Czechia, Austria, Germany, England, Slovakia, Estonia, Belgium, Lithuania and Poland. The proportion of school-aged children scoring at a high level of health literacy in these countries varied from 12.8% – 19.2%. In Macedonia and Finland, the two countries in the HBSC-study where pupils achieved the highest scores of health literacy, the proportion of school-aged children scoring at a moderate level was 56% and 53.2%, respectively. Altogether, pupils in both these countries perceive their health literacy to be either high or moderate, with 94% of all pupils in Macedonia and 91% of all pupils in Finland.



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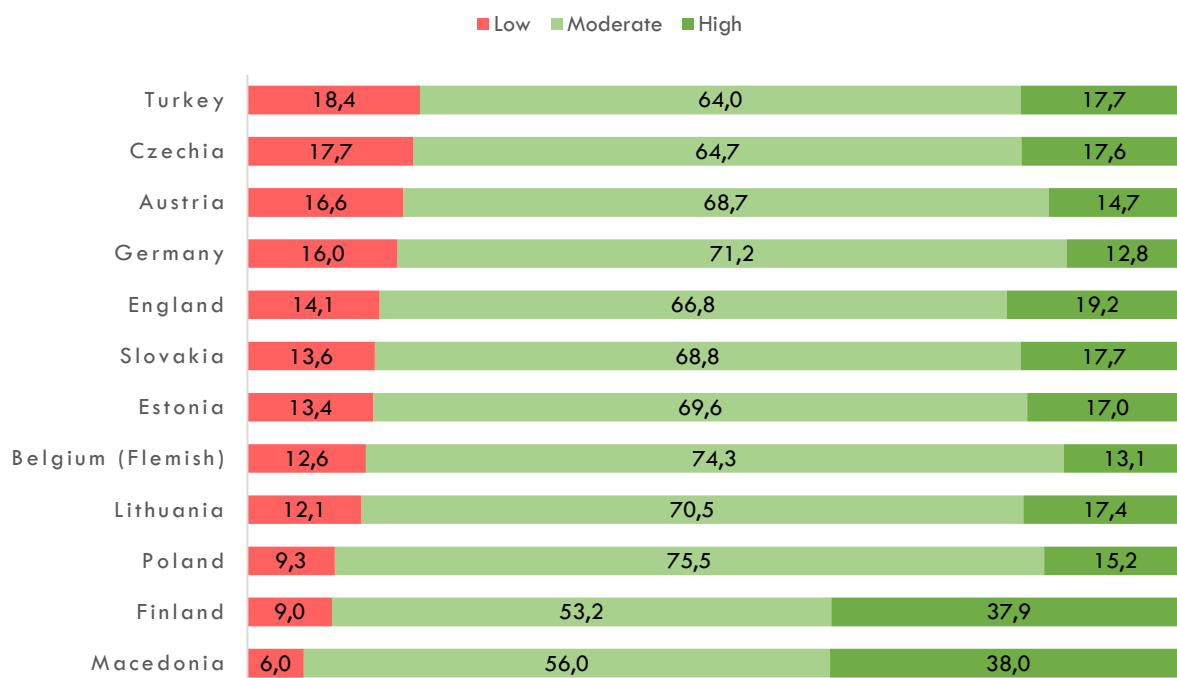


Figure 1: Comparative results on health literacy in European pupils (percentages, %)<sup>36-38</sup>

In a school study of 6<sup>th</sup> graders (n = 1.671) on health literacy and life-skills, almost 90% of the pupils stated that they perceive finding, understanding, evaluating, and using health information to be very easy or rather easy.<sup>39</sup> Similarly, a study among 4<sup>th</sup> graders in primary schools (n = 907) found the health literacy of schoolchildren to be very high, with more than 80% of the pupils reporting that it is very easy or rather easy to deal with health information.<sup>40</sup> A recent study among 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> graders (n = 500) on digital health literacy found that pupils reported most difficulties with regard to finding digital health information (41%), evaluating the reliability of online health information (42%), and using health information found online in their everyday lives (44%).<sup>41</sup> The findings regarding gender differences are mixed. Studies in some countries (e.g. Lithuania, Germany, Poland, Macedonia and Estonia) suggested higher levels of health literacy for girls,<sup>36,38,39</sup> while in several countries of the HBSC-study, no gender differences were reported.<sup>36</sup> Furthermore, studies in both children<sup>40</sup> and adolescents<sup>39,42,43</sup> demonstrate the existence of a social gradient, demonstrating socioeconomic disparities in health literacy and showing that a lower socioeconomic status of the family increases the likelihood for lower health literacy among children and adolescents.

## Interplay between health literacy, health, and education

Health and health behaviour are complex phenomena, and there is no one single factor that explains them fully. Instead, there are several factors that can be considered as important contributing factors to their development and maintenance, with health literacy being one of them. Children's and adolescents' health literacy has been



linked to several direct, intermediate, and long-term health indicators across different studies.<sup>33,34,36,37,39,44</sup> Research findings indicate that health literacy is (at least partially) determined by educational indicators (e.g. school performance and achievement, literacy, learning motivation) and by socioeconomic indicators (e.g. family affluence, parental education, occupation).<sup>32,36,39,40,42</sup> In this context, higher levels of health literacy are more prevalent among pupils from more affluent families.<sup>36,39,40,42</sup> Based on the evidence provided in this SHE Factsheet as well as following earlier WHO frameworks,<sup>35,45</sup> Figure 2 gives an example of the interplay between health literacy, health, and education. For the purpose of this SHE Factsheet the focus is only on micro- and meso-level factors but macro-level factors such as national health and education policies, national income, cultural context, and institutional make-up are also crucial. These factors should be considered inherent to any whole school framework to ensure a determinants-based approach.<sup>35,45</sup>

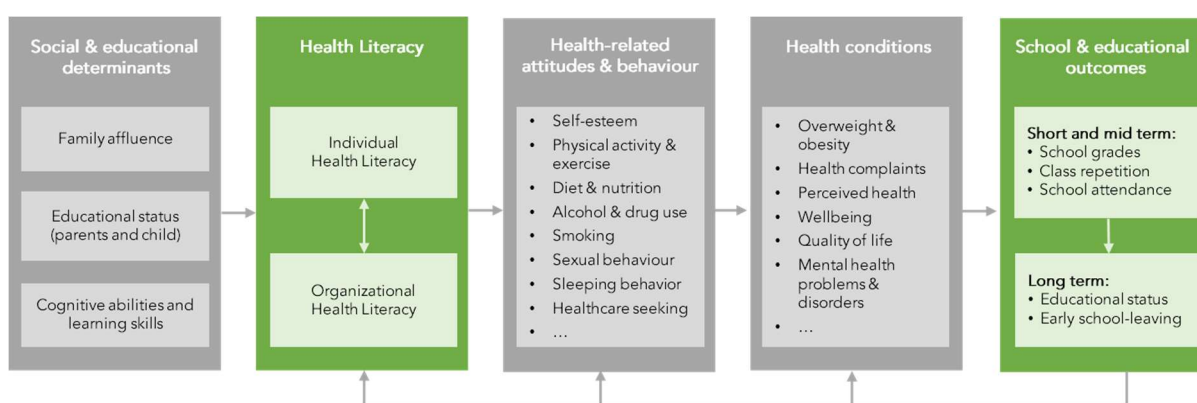


Figure 2: The complex interplay between health literacy, health, and education

Health literacy impacts educational outcomes, directly and indirectly.<sup>22,42</sup> While the direct path can only be assumed due to lack of evidence-based research, there is some evidence for the indirect path. The indirect path is substantiated by the well-established causal influence health indicators can have on different educational aspects such as school grades, early school-leaving, or school attendance.<sup>46,47</sup> Considering that health literacy is linked to health behaviour and health status, it can be assumed that health literacy indirectly affects educational outcomes through health. In this context, pupils who have higher levels of health literacy, perceive their health to be better than those who perceive their health literacy to be lower.<sup>36,42,48</sup> Similarly, they report having better self-esteem, being more satisfied with their life, having less health complaints (e.g. psychosomatic complaints), and they also have more health knowledge.<sup>39,42</sup> Better health literacy has also been associated with a lesser likelihood of becoming over- or underweight<sup>33</sup> as well as several positive health behaviours, such as increased level of physical activity, less use of alcohol and less smoking,<sup>32,34,37,42,44,49</sup> and better sleeping habits.<sup>42</sup> However, most studies researching the health literacy of children and adolescents are cross-sectional in design (single assessment at a specific point in time), which does not allow conclusions in relation to causal relationships. Therefore, the link between health literacy and education should be further explored in longitudinal studies. Such studies could generate in-depth knowledge about the complex interplay between health literacy, health, and education. In addition, such data could be used to inform health and education policies and enable greater inter-sectoral leverage, thus contributing to the “health in all policies” strategy (HiAP).<sup>50</sup>





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## Health literacy in schools in the WHO European Region

In the past, various WHO policy documents emphasised health literacy in the context of school education to promote the physical and mental health of pupils and educational staff. The WHO Shanghai Declaration identifies the educational sector as the most important setting for teaching and learning health literacy early in life.<sup>4</sup> The policy brief on health literacy in the educational sector by the WHO European Observatory on Health Systems and Policies has identified several co-benefits for the education sector that are linked to health literacy. These include increased academic performance, health outcomes, and cost effectiveness.<sup>35</sup> As early as 2013, the WHO published their report “Health literacy: the solid facts”, recommending the strengthening of health literacy of school-aged children by including health literacy as a core component to the whole school approach.<sup>13</sup> In addition, North America,<sup>28,29,51</sup> Australia,<sup>18,19,30,52</sup> Asia,<sup>53</sup> and other countries.<sup>22</sup> have addressed health literacy as part of a holistic approach to school health promotion. The OECD report “The Future of Education and Skills 2030” named health literacy as a core competence for the 21<sup>st</sup> century and a critical target for education in order to empower citizens increasing their control over their own health.<sup>54</sup>

Although limited, available evidence-based research suggests a clear need to address health literacy as early as possible in childhood and adolescence.<sup>6,16,35</sup> Schools reach almost all school-aged children, therefore offering an ideal setting for enhancing health literacy.<sup>6,23</sup> Moreover, schools can warrant the long-time implementation of health literacy programmes, such as in Finland,<sup>55</sup> the USA,<sup>56,57</sup> and Australia,<sup>58</sup> ensuring educational interventions are more sustainable and cost-effective.<sup>35</sup> School health promotion events and health education activities have been linked to health literacy. In Lithuania, it was observed that if pupils’ had taken part in school health promotion efforts and health education activities (especially if the focus was on bullying), they reported better health literacy.<sup>38</sup> However, only few school programmes exist that address health literacy.<sup>59</sup> One reason may be that schools often perceive health literacy and health promotion to be substituting time required for teaching core subjects such as math or reading. Even so, educational goals and the goals of health literacy overlap on many levels such as in helping children and adolescents to become autonomous, empowered and independent citizens, critical thinkers, competent to make informed (health) decisions, and to reflect on the consequences and ethics of their action towards themselves and society.<sup>6,19,23,35</sup>

The report on European Standards and Indicators for Health Promoting Schools by the Schools for Health in Europe Network Foundation (SHE) emphasises that health literacy is a valuable teaching and learning objective for European schools.<sup>60</sup> This report aims to outline challenges and opportunities for addressing health literacy of pupils within the whole educational sector. In particular, the goals of this report encompass:

- placing health literacy in schools into the wider WHO health literacy strategy,
- highlighting the critical role of the education sector and necessary resources,
- providing key health literacy learning objectives and indicators,
- drafting an action agenda in order to implement monitoring of health literacy in schools.



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## Teachers, school principals, and school staff

Making health literacy a topic for school health promotion requires building professional and organisational capacities.<sup>17–19</sup> Teachers and school principals have an important role to play in school health promotion and are critical actors and facilitators in the delivery of health literacy in the school and classroom.<sup>22–26,61</sup> In 2001, Peterson and colleagues<sup>24</sup> highlighted that teacher's health literacy must be seen as the counterpart to pupils' health literacy. Teachers influence the quality of health education and classroom activities for the acquisition of health literacy. Teachers influence the quality of health education and classroom activities for the acquisition of health literacy.<sup>22,25,62</sup> To achieve high quality health education, health literacy must be included in teacher training and the school curriculum.<sup>6,22,23</sup> A recent study has reported that health literate school principals advocate and support the implementation of holistic approaches to school health promotion.<sup>26</sup> Teachers, school principals, and school staff trained in health literacy will be better prepared to teach health literacy in the classroom and within extra-curricular activities as well as to support health literacy in the school environment. They should be considered as significant amplifiers and multipliers of implementing any action on health in schools. Health literacy within schools requires allocated teaching time, the development of learning materials, instructional methods, and didactics as well as digital technology and virtual learning environments. These resources will ensure teachers and educational professionals better engage with health literacy, including digital literacy, information literacy, and media literacy.

## Health literacy, digitalisation, and digital transformation

For schools and the whole education sector, new challenges and risks arise from the impact of digitalisation and digital transformation on health and society.<sup>22</sup> By means of digital communication technologies, especially via the internet, social media, smartphones and apps, health information is almost limitlessly available and accessible. Health information spreads quickly and has become part of everyday life.<sup>5</sup> The COVID-19 pandemic caused an overabundance of valid and invalid information spreading rapidly via internet and digital communication channels (a.k.a. an infodemic).<sup>63</sup> Such exceptional emergencies put additional demands on children, possibly causing insecurity or even anxiety. Children and adolescents are required to adopt (digital) health literacy competencies, including social media literacy and information literacy, in order to navigate in the digital and media information environments and use digital technology appropriately.<sup>64</sup> Digital technology and related school infrastructure is a relevant necessity for teaching digital health literacy and familiarising children and adolescents with the emerging digital world and associated effects on health and wellbeing. In recent years, there has been an increase in children and adolescents' engagement with digital technology and virtual environments across the world.<sup>65</sup> Although today's children and adolescents are most likely to grow up digitally socialised,<sup>66,67</sup> they still need to acquire the competencies necessary to responsibly use and interact with digital media, digital information, and digital communication technologies through educational interventions. However, a German school study reported that despite the availability of a wide range of media equipment for educational purposes, schools lacked the necessary IT infrastructure on many levels (e.g. wireless networks, professional capacities).<sup>41</sup> Equipping the educational sector and schools for the digital age will require significant resources.





## Understanding educational systems and languages

The educational systems within the 53 WHO European Region member states vary greatly in terms of organisation, administration, governance, policy, and resource allocation. There cannot be a one-size-fits-all approach and the delivery of health literacy must be adapted to national education systems and goals. As with the Health Promoting School approach, the likelihood of establishing health literacy depends on the extent to which it is linked to the core tasks of the school. As the core task of school is to deliver education and not health,<sup>28</sup> talking the language of education is crucial when aiming to address health literacy in schools.<sup>23</sup> Many schools already address concepts in their curriculum that encompass competencies and action areas similar to those addressed by health literacy. Examples include: teaching of various health topics and abilities such as media literacy, information literacy, digital literacy, critical thinking, and communication skills. Instead of introducing health literacy as a new concept, one must combine and integrate health literacy into these pre-existing topics.

## Health literacy integrated in holistic frameworks of HPS

The WHO has been making a strong case for health literacy to be integrated into the settings approach, and the Health Promoting School (HPS) is a perfect framework to achieve this.<sup>33</sup> The Moscow statement adopted at the 5<sup>th</sup> European Conference on Health Promoting Schools has also emphasised that health literacy should not be dealt with in isolation, but rather be integrated in the holistic framework of the HPS approach.<sup>68</sup> In recent years, there have been numerous attempts to define the core dimensions and fields of action of the HPS as shown in the SHE Factsheet on HPS.<sup>31</sup> Despite great variance, a common theme across models is the holistic approach of moving beyond individual behavioural change by addressing organisational change via strengthening of the physical and social environment, including interpersonal relationships, school management, policy structures, and teaching and learning conditions (see Table 1).<sup>31,68</sup> By addressing the whole school environment, both individual health literacy competencies of pupils, teaching and non-teaching staff as well as the organisational health literacy capacities within the school – including the wider school community – can be addressed.<sup>27</sup>

HPS framework as presented by the World Health Organization <sup>69</sup>	HPS framework as presented by the International Union for Health Promotion and Education <sup>70</sup>
Engage health and community leaders	The school's social environment
Provide access to health services	Links with health services
Improve health promoting policy and practice	Healthy school policies
Provide a safe and healthy environment	The school's physical environment
Provide skill-based health education	Individual health skills and action-competence
Improve health of community	Links between the school and the community

Table 1: Key features and dimensions of the Health Promoting School (HPS) approach



## A future avenue for health literacy in schools

Health literacy has been described as a relational concept, within which the environment and structures interact with and are equally as important as individual health literacy. A recent project, Health Literate Schools (HeLit-Schools), aims at merging both the concept of organisational health literacy and the HPS approach into a comprehensive, extensive action framework.<sup>27</sup> Embedding health literacy into the HPS framework requires all health literacy activities to be linked to the broad core dimensions of HPS, including individual, school, and community fields of action (as seen in Figure 3).

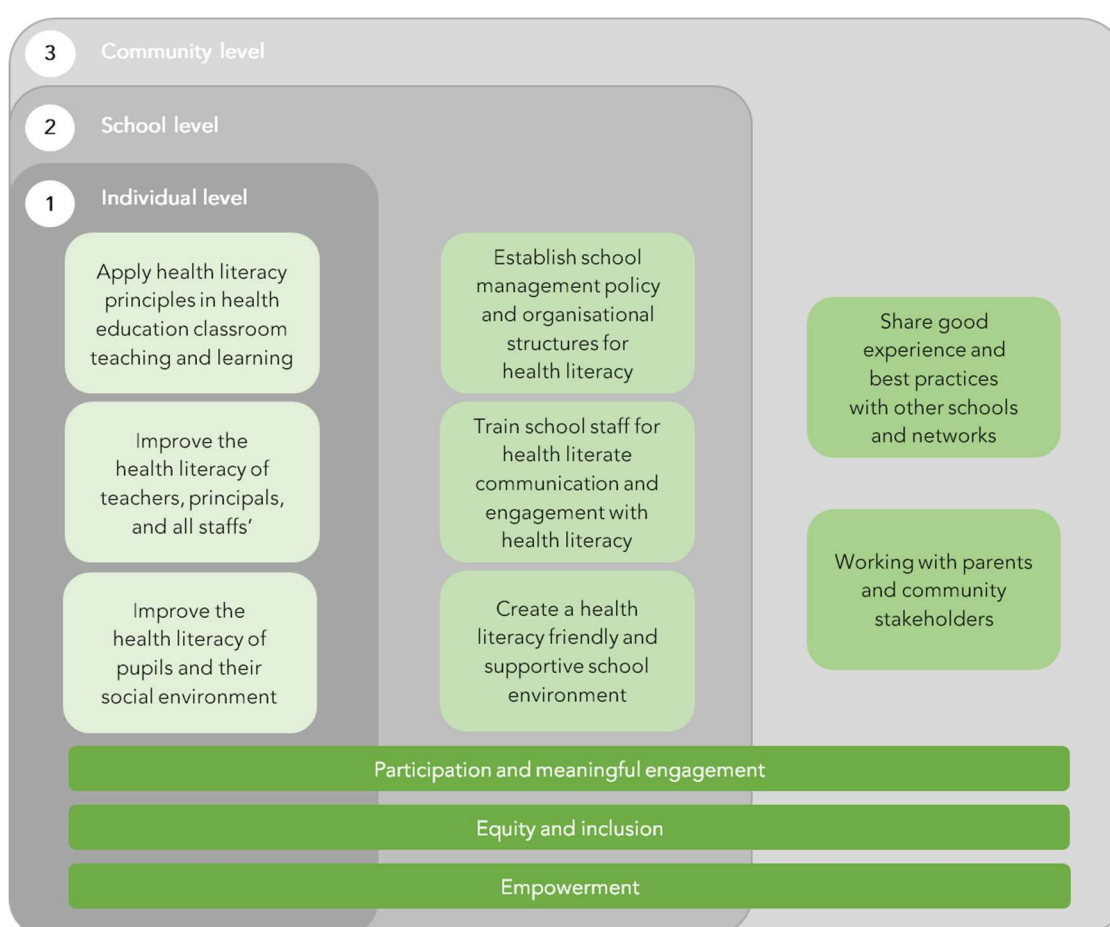


Figure 3: Health literacy as part of a holistic concept of Health Promoting Schools

At the individual level, the main aim is to promote health literacy through health education measures, including the health literacy of teachers, school principals, and school staff. Teachers and school principals are role models and have a significant influence on the implementation of health promotion activities at their schools. At the school level, the focus is primarily on structures and conditions that are crucial to strengthening individual health



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literacy. In addition to social relations with peers and school staff (e.g. the social climate), these structures and conditions include the creation and design of the school environment (e.g. equipping schools with digital media) and the establishment of an all-inclusive strategy (e.g. integrating health literacy into the school's mission). The development of further education and training in the area of health literacy is an important factor at the school level. The community level describes the wider school environment encompassing networking with other schools, exchanging experiences and good practices regarding health literacy as a school topic, and may also involve the participation of parents and stakeholders. In many countries, teachers are less trained and experienced in health topics, specifically in areas such as mental health and digital health, requiring the establishment of strong partnerships with community health, mental health, and social services. Embedding health literacy into the whole school approach requires alignment with the basic principles of HPS: (1) participation, meaningful engagement, and the inclusion of all relevant groups inside and outside the school, (2) consideration of diversity in the development and implementation of all activities, and (3) empowerment of pupils as well as teachers, school principals, and school staff to implement and pursue measures and objectives within schools according to their own needs and to apply the acquired abilities to everyday life.

## Conclusion

Health literacy must be understood as an important educational dimension of schools in the 21<sup>st</sup> century within the WHO European Region and beyond. Strengthening health literacy will contribute to overall school health promotion, including physical, mental, and digital health outcomes for school-aged children and school and educational professionals. Health literacy will have an impact on educational outcomes such as learning achievements, academic competencies, critical thinking, and it will enable pupils to become empowered individuals as well as ethically and socially responsible citizens. Addressing health literacy in schools will not only sustain academic and health outcomes in pupils and teachers, school principals, and school staff, but it will contribute to increased health equity within society. Health literacy empowers children and adolescents to address and change the social, commercial, cultural, and political determinants of health, especially critical health literacy. The HPS model offers an ideal intervention framework for enhancing health literacy within a holistic school approach, including the social environment of the pupils, structural conditions, community, and policy. The links between health literacy and education must be further investigated with longitudinal studies linking research efforts with practical goals in order to better understand how health literacy develops throughout childhood and adolescence.



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