


Digital health education as a topic for PE: Relevance, practical implications and teachers' perspectives

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ABSTRACT

Digital health technologies and social networking services have become an inherent part of physical activity, exercise routines and fitness training. Adolescents obtain significant parts of their health-related knowledge and beliefs from such technologies and social media, which in turn can influence how they approach sports and physical activity. These processes have been accelerated and intensified by the Covid-19 pandemic. Against this background, this paper aims to discuss the relevance of digital health education as a topic for the subject PE. First, potential benefits and risks of digital health technologies and networks are explained with a focus on adolescents as the target group for digital health education. In this context ideas and recommendations to implement digital health education in teaching practices are illustrated. It is argued that young people should be supported to develop their own critical viewpoints and attitudes towards the use of digital health technologies and networks to pursue individual health-related goals. Second, results from a qualitative interview study with 32 PE teachers in Austria regarding their perspectives on digital health education in PE are presented. The most significant findings of the survey are that asked teachers see digital technology mainly as a tool for functional health promotion and are aware of normative body representations in social networks. Some PE teachers also orchestrate PE as a counterpart to an increasingly digitalized world excluding digital technology from their lessons. However, a holistic approach to digital health education requires that the digital culture of health, body, exercise and fitness is experienced and discussed from different perspectives. In doing so, students can be enabled to use digital health technologies and networks in an informed, responsible and self-determined way.

Keywords

digital education, digital health technologies, health education, physical education, reflexive thematic analysis, social media

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Introduction

Wearable technologies, tracking applications and social networks have become an inherent part of physical activity, exercise routines and fitness training (Ferguson et al., 2022; Thompson, 2023). At the same time, they enable new experiences and different views on movement and the human body in virtual and hybrid settings (Ruin & Giese, 2023; Wendeborn, 2021). Adolescents obtain significant parts of their health-related knowledge and beliefs from such digital health technologies and networks, which in turn can influence how they approach sports and physical activity (Azzarito, 2019; Goodyear et al., 2019a). These processes have been accelerated and intensified by the Covid-19 pandemic. Online health and fitness channels as well as individual (home) workout and exercise routines often aided by digital technology have gained popularity. The promotion of health, wellbeing and regular physical activity among children and juveniles in educational settings has been of increasing importance and public concern (Jarnig et al., 2021; Pieh et al., 2021).

Health-related educational objectives are closely related to the subject PE. Health is described as a central dimension in a multi-perspective approach to PE rooted in the German tradition of sports pedagogy (Kurz, 2004) and health-related learning goals are part of the educational standard as the foundation for PE curricula in Austria (Amesberger et al., 2014). Examples of such objectives include that students know about and apply anatomical and physiological basics of the human body, perform relaxation techniques and evaluate, adapt and organize their individual physical activity and sports engagement. These curricular demands – besides other aspects such as the individual (sports) biography and pedagogical beliefs –

inform teachers' educational practices (Poweleit, 2019). In some countries the subject is explicitly labeled physical and health education (PHE, HPE, or PEH), signaling that learning about health and health promotion can meaningfully overlap and intertwine with sports and physical activity in the curriculum (Miller et al., 2022; Schenker, 2018). Integral goals of health education are to know about, to be able to analyze and to purposely use or avoid health-related potentials and risks of sports and physical activity (Balz, 2013). Teaching health should not only follow a natural, but also a social science perspective, since humanistic values and pedagogical principles are essential to foster the health-related education of all students based on equity and inclusion (Schenker, 2018). Digital education can be seen as imperative to be able to participate comprehensively in all aspects of societal life in the 21st century (Kerres, 2022). It comprises the reflective understanding, self-determined application and constructive advancement of digital media and technologies (Dindler et al., 2020; Iversen et al., 2018). Key stakeholders for the successful implementation of educational concerns and curricular objectives are the teachers (Stibbe, 2010; Zierer, 2020). Until recently, however, teachers have commonly used digital media and technologies to communicate and present, but only rarely integrated it comprehensively in educational practices and students' learning processes (Waffner, 2020).

Against this backdrop, this paper aims to discuss the relevance of digital health education as a topic for the subject PE. This is done both from a theoretical and an empirical perspective. First, the importance of health education in the digital age is addressed. Thereby, potential benefits and risks of digital health technologies and networks are explained. A special focus is

given to adolescents as the target group for digital health education. Subsequently, implications for the subject PE are illustrated and recommendations for the practical implementation of digital health education derived from the theoretical framework are offered. Second, the views of Austrian PE teachers on digital health education extracted from an interview survey within a qualitative research design are presented and discussed. The described central objectives of digital health education function as a reference point for the interpretation of the data material. To conclude, the most significant findings of this study are summarized.

Background: Health and health education in the digital age

Benefits and risks of digital health technologies and networks

Digital health technologies and networks are widely used in the context of physical activity, exercise, movement, sports and recreation. This is also indicated by the yearly survey of worldwide fitness trends for 2023 by the American College of Sport Medicine placing “Wearable Technology” on top of the list (Thompson, 2023, p. 12). Such technologies have the potential to encourage individuals to monitor health parameters such as heart rate, blood pressure, energy expenditure, oxygen saturation, sleep quality or number of daily steps, to motivate physical activity and to integrate regular exercise into daily life (Ferguson et al., 2022). This might help to tackle health risks associated with a sedentary lifestyle and physical inactivity. However, digital health technologies and applications also often promote a one-dimensional understanding of health. Health is then reduced to quantifiable bodily functions that need to be optimized to conform to dominant fitness and beauty standards in a society (Raab et al., 2023; Spiel et al., 2018). In further consequence permanent self-tracking can lead to compulsive behavior resulting in a constant urge for self- and bodily improvement. This type of performance pressure and persistent feelings not to suffice can cause mood

swings and even severe mental distress (Prichard et al., 2018; Rich, 2018). Furthermore, following predefined and standardized workout plans can induce to overestimate oneself and to ignore one’s individual physical constitution as well as pre-existing medical conditions. This can even result in faulty self-diagnoses and injuries (Spiel et al., 2018).

Visual images such as photographs and videos are the dominant means of communication on social networks. On media platforms the human body is often aestheticized, reproducing normative fitness and beauty ideals, which in turn become even more powerful. Assumed positive qualities such as being attractive, fit, energetic and productive are often attributed to images that show users in the context of physical activity and exercise (Höger, 2021). Eventually, this can also lead to the self-objectification of an individual and its body, which is then almost exclusively viewed from an external perspective and judged based on its outward appearance. Digital image processing or algorithms based on user behavior and the popularity of postings can further reinforce such phenomena (Lamp et al., 2019). Stereotypical and unrealistic representations of the human body in advertising and social media can adversely influence health-related behaviors (Azzarito, 2019). This might become apparent in a deficit-oriented body image and decreased self-esteem and/or excessive dietary and training habits (Dakanalis et al., 2015; Holland & Tiggemann, 2017). Therefore, being aware of and considering not only potential benefits, but also possible downsides and risks of digital health technologies and networks is important to utilize them in a meaningful and responsible way.

Health and health education for adolescents in the digital age

Almost all adolescents in Austria regularly use digital technologies like smartphones and social media sites (Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz, 2023). Young people also obtain significant parts of their health-related knowledge and beliefs from such technologies (Bindel et al., 2020; Goodyear et al., 2019b). Thus, the use of digi-

tal media in health education should not be separated from the health-related interests and needs of students (Raab et al., 2023). “The development of effective pedagogies can be enhanced by learning lessons from the ways in which young people access, select and use digital health technologies” (Goodyear et al., 2019b, p. 208). At the same time, especially through social media children and juveniles are confronted early on with uniform body images and narrow beauty ideals. Such normative representations of the human body can influence their identity formation and how they approach physical activity (Azzarito, 2019). Results from the HBSC-study 2022 for Austria (Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz, 2023) indicate that more than half of the asked students in secondary schools are dissatisfied with their physical appearance regardless of their actual weight and size. Whereas teenage girls show a tendency to feel too thick, a disproportionate number of older teenage boys sees themselves as too skinny (Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz, 2023). Lockdowns during the Covid-19 pandemic and their side effects such as (partly) closed sports and recreation sites, less opportunities for social activities with peers as well as increased screen time and social media use have posed further challenges for the health and wellbeing of youth. This is indicated, for instance, by reports of secondary school students on negative effects of this global crisis on their physical and mental health (Jester & Kang, 2021; Pieh et al., 2021).

Deliberately addressing and reflecting on health- and body-related phenomena that emerge and/or are intensified in an increasingly digitalized world can be considered of high relevance for school settings. Adolescents should be empowered to use digital technologies and social networks autonomously and responsibly to find and to pursue their individual health-related goals (Goodyear et al., 2019a). Teachers need to be careful not to consolidate normative health and body discourses by introducing and using fitness and performance apps in a nonreflective way (Van Doo-dewaard & Knoppers, 2018). Rather, students should

be encouraged to oppose stereotypical and exaggerated norms of health, fitness and performance transported in traditional and new media and to be self-confident about their individual bodies, physical abilities and skills (Azzarito, 2019). The Covid-19 crisis and school lockdowns have given new prominence to health and health promotion in the educational system. Great potential has been attributed to quality PE – on-site, but also in distance learning settings – to establish and inspire healthy practices and behaviors through physical activity and health-related knowledge building and its reflection as well as social-emotional learning (Vilchez et al., 2021).

Putting digital health education into practice

Since the subject PE focuses on educational processes relating to the human body, it seems particularly suited to support students to develop a holistic understanding of health and a positive body image in the digital age. To foster digital health education PE teachers can, for instance, critically discuss body aesthetics showcased in digital health technologies and deliberately present a diverse set of healthy bodies and athletic role models. They can also address the popular fitness lifestyle in PE lessons. PE teachers themselves can be a source of expert knowledge to convey realistic body images and expose popular health and fitness myths revolving around, for example, seeming benefits of supplementation for adolescents. Subjective truths about fitness training and nutrition that are often spread through social networks can be discussed and scientifically sound alternatives can be presented and tested with students (Bindel et al., 2020). Tracking devices too can be used not only to record and compare performance data, but also to reflect individual perspectives on health such as achievement and wellbeing, but also exhaustion and stress. Deliberately contrasting doing sports with and without the use of wearable technologies and tracking apps in PE lessons can also support young people to develop their own critical viewpoints and attitudes towards the use of digital health technologies and networks.

In addition, guidelines to identify evidence-based information on social media and high-quality exercise and fitness online channels can be cooperatively developed in PE as well. In this way students can both be supported to choose appropriate digital health and fitness content and at the same time bring their individual experiences as well as sports- and health-related needs to the PE classroom. Besides, examples of fitness- and health-related images and videos in social networks can be discussed with students adopting a perspective from critical media studies (Ott & Mack, 2014). Selected visual content can be analyzed regarding the application of digital processing and filter tools or the deliberate use of advantageous body postures, recording angles and/or lighting settings often used to increase media penetration and pursue commercial interests. It is, however, crucial, that data security and personal rights of students are always guaranteed when working with digital health technologies and social networking services in educational settings (Raab & Meier, 2021). In the following part of this article perspectives of PE teachers on digital health education in the context of their subject are addressed.

Methods

Data collection and sample

The analyzed and presented data material was originally collected for the author's PhD project on the use and integration of digital technology in the school subject PE. In total, 32 semi-structured oral interviews with Austrian PE teachers at lower and upper secondary level (K5 to K12/13) working in urban and peri-urban schools in Greater Vienna were conducted from May 2020 (after the first school lockdown in Austria due to the Covid-19 pandemic) to January 2021. 16 participants each identify as male or female respectively and one teacher at the maximum was interviewed per school. For this paper, the interview data has been re-analyzed focusing on digital health education as a potential topic for PE. The software MAXQDA 2022 was used for data management and analysis.

Data analysis

Within a qualitative research paradigm the data material was analyzed applying reflexive thematic analysis (RTA) as described by Braun & Clarke (2006, 2019). In RTA themes are developed from codes. Codes capture an essential aspect of the data and themes cluster several of such insights into the text material around a "central organising concept" (Braun & Clarke, 2013, p. 224) or idea. The RTA allows for a certain methodological flexibility provided that researchers make their choices and research practices explicit. For this project, an inductive, semantic and critical-realist approach was adopted. Braun & Clarke (2021) also point out that this combination is frequently found in research practice. Hence, coding was led by the content of the data material rather than by pre-defined concepts and theories. Meaning was produced on a manifest level and language was considered as an accurate account of the participants' thoughts, beliefs and opinions (Braun & Clarke, 2021). The research objective is to describe reality accurately and generate reproducible results. However, it is also acknowledged that the production of knowledge cannot be entirely objective, but is also influenced by a researcher's cultural background, values and prior experience with the research topic (Creswell, 2014).

In the context of this study, it is noteworthy that the researcher works in the field of teacher training and PE didactics in Austria. Generally, the researcher regards a reflective approach to PE as valuable and important for teaching quality, but tends to be critical towards PE with the primary goal to increase the physical activity and fitness levels of students. Consequently, the researcher believes that a state of (good) health cannot be exclusively defined by objective parameters and functional performance, but at the same time involves the subjective physical, mental, emotional and social wellbeing of individuals. These views might have influenced the analysis of the data material and the interpretation of the detected themes. As a former high school teacher, the researcher was once also pointed to a case where a student created and shared heavily

processed self-images on social media and noticed on different occasions that some students took up questionable ideas about strength training and nutritional supplementation from online fitness channels and tutorials. These experiences might have also contributed to how the researcher perceives the relevance of digital health education in school settings and PE.

An RTA typically follows six (recursive) steps of analysis (Braun & Clarke, 2006). The following table illustrates how the phases of RTA have been utilized in this research project.

Table 1

Phases of RTA (Braun & Clarke, 2006) and their application to this research project

Phase	Analytical steps	Application within research project
1	familiarization with data	comparing transcripts with original audio recordings, loading transcripts into MAXQDA, writing down initial ideas
2	generating initial codes	inductive coding of data material in MAXQDA, comparing codes, if applicable separating or merging codes
3	searching for themes	searching for potential themes within the data material, collating codes with themes, selecting representative data material
4	reviewing themes	reviewing consistency of themes and coded text passages, if applicable re-allocation of data material
5	defining and naming themes	elaborating themes, naming themes and finding an appropriate headline for final report
6	producing the report	relating themes to research interest and theoretical background, interpreting and discussing themes, writing final text

Results and discussion

Introduction

In this chapter three themes dissected from the data material are presented and discussed. Thereby, a balance between quoted interview passages to exemplify the most significant findings and an analysis based on the described theoretical background is sought (Braun & Clarke, 2022). Teachers are anonymously cited as T plus the respective chronological number of the interviews 01 to 32 (e.g., T01). Since the original data material is in German, the referenced passages and quotes from the interviews are translations by the author.

“If I take in more calories than I burn, I will probably not lose weight” – Digital technology as a tool for functional health promotion

One of the most striking findings is that teachers regard digital technology as a tool for movement-oriented health promotion of their students. This is illustrated by the following statement of one of the interviewed teachers:

So that sports and movement actually become a part of everyday life and also with ICT [information and communications technology] through fitness tracking, that people somehow suddenly know what VO_2 max means and how many steps I actually take per day, how many calories I burn, so that students are more aware of such parameters and that it can be worked with them more, that they realize, if I take in more calories than I burn, I will probably not lose weight. (T03, pos. 52 – codes: tracking fitness and health parameters, weight loss as a relevant topic).

Likewise, other teachers consider tracking of movement and performance data as a viable application of digital technology in PE as well. T15 (pos. 58 – code: tracking (performance) data), T16 (pos. 16 – code: tracking (performance) data) and T26 (pos. 8 – codes: counting steps with wearables, tracking (performance) data) would possibly ask students to use fitness trackers such as heart rate monitors and pedometers with GPS to measure physical activity, for instance during endurance runs. In addition, some PE teachers also stress that one of their goals is to promote physical activity of students outside of class in their free time through digital technology. T05 (pos. 92 – codes: empowering self-activity, relating to life experience) points out that students need to be empowered to get physically active on a regular basis and understand the benefits for their individual health. According to this participant and to some other teachers (T18, pos. 82 – codes: motivating through challenges, sharing challenges on social media; T28, pos. 78 – code: regular workouts in future) this can be supported in the context of PE by offering ideas for exercise, home workout programs or voluntary sports challenges and motivating students to share their images or videos via social networks.

PE teachers clearly incorporate digital tools to track performance data in PE with the intention to promote and motivate exercise and, thus, to create positive effects for students' health. However, a critical discussion of possible benefits, challenges and risks of fit-

ness trackers in these contexts to support the self-determined use of such devices is largely omitted. Rather, teachers seem to carry over the tendency for (physical) self-optimization in post-modern societies (Duttweiler & Passoth, 2016) to their PE classes. The objective to initiate additional physical activity of students might have been influenced by the experiences of teachers in distance learning PE during the Covid-19 pandemic. This situation has provided new perspectives and ideas on the integration of digital technologies and social networks (Howley, 2022). At the same time, reports on decreased health of students in Austria indicated by lower scores in motor skills assessments and an increased BMI during the Covid-19 pandemic (Jarnig et al., 2021) might have also contributed to this teaching priority. Nonetheless, health seems to be rather understood in a functional than in a holistic way and, thus, it is mainly reduced to bodily functions and physical performance by PE teachers when incorporating digital technology. The potential of the subject to offer a wide perspective on sports and health that also encourages students to express, pursue and reflect on their individual health-related needs and wellbeing in the digital age is apparently not fully realized.

**“Not everyone needs to look like a model or barbie doll jumping around in these videos”
– An awareness for normative body representations in social networks**

Another noteworthy theme in the context of digital health education relates to the sensitivity of teachers towards normative representations of the human body in social media. T25 (pos. 54 – codes: body image of students influenced by social media, communicating problematic body representations through videos), for instance, points out that especially for teenagers the use of social networks can negatively influence their body images because they tend to compare themselves with models “striking a pose” on such sites. The teacher is aware that showing students videos of target movements – if, for example, presented by professional track and field athletes – can arouse such

effects and that this needs to be reflected with the students. A similar thought is expressed by T32:

And what I would also call relevant, I think that this has not been addressed that much before, also the bodily self-image, how they view their own body and especially this unhealthy body image that many have, which is particularly strongly influenced by social media, that this should also be addressed. (T32, pos. 6 – codes: body image of students influenced by social media, address unhealthy body images)

T29 (pos. 16 – code: questioning body representations in online fitness videos) also mentions that it is important to question the body representations that are transported by media and gives the example of professional online videos that feature perfectly shaped athletes wearing short outfits. The teacher is reluctant to show and recommend such videos to students because the teacher does not want to convey that obtaining these looks is an objective of PE. Even though the teacher's aim is to communicate health-related benefits of physical activity, students should also understand that "not everyone needs to look like a model or barbie doll jumping around in these videos."

As indicated by these quotes, it is vital for PE teachers to promote the development of positive body images and affirmative sports-related identities in an increasingly digitalized world as the foundation for joyful and long-term physical activity among students. Teachers can achieve this by offering and working with diverse sports and fitness models that can serve as an inspiration for young people (Van Doodewaard & Knoppers, 2018). Being sensible of different body cultures on social media – such as body neutrality and acceptance movements – that sometimes convey opposing norms of health and beauty (Langnes & Walseth, 2023) seems relevant in this regard. Besides, it might also be crucial that PE teachers are aware of and critically reflect varying and partly normative representations of the human body in curricular documents (Ruin, 2015) as well as their own subjective body images and their – latent or manifest – influence on educational prac-

tices (Ruin, 2017). Eventually, adolescents should be supported not to feel pressured by health and fitness ideals transported or reinforced through social networks and to be confident about their bodies and themselves when doing sports and beyond that in other areas of their everyday lives (Azzarito, 2019).

“There are so many options to move and motivate kids without digital aids” – PE as a counterpart to an increasingly digitalized world

A third interesting result is that some of the asked teachers believe PE should be kept screen-free and, thereby, show a healthier alternative to an increasingly digitalized society. This is exemplified by an interview partner in the following way:

Actually I have to say that I do not want to include that all too much in my lessons because [...] sports should be kept separate from all these digital things. They should move and not somehow [stare] in this screen. There are so many options to move and motivate kids without digital tools and that is actually in the foreground for me and more important. (T24, pos. 14 – codes: movement time in the foreground, PE as a screen-free time)

Other teachers as well point out that students already spend a lot of time in front of screens especially due to their mobile phone usage. These teachers advocate for PE as a subject that's main purpose is to provide opportunities for physical activity. Hence, in their opinion digital technology should not be used in PE since it might limit movement time (T08, pos. 50 – code: additional screen time; T15, pos. 14 – code: movement time in the foreground – ICT use not necessary; T22, pos. 60 – code: additional screen time). In this respect some teachers also mention that students are easily distracted from the actual focus of the lesson when the teacher utilizes digital equipment (T06, pos. 28 – code: distraction of students – PE as an alternative world to digital reality) or when students follow or create digital content in PE (T27, pos. 70 – code: distraction of students – PE as an alternative world to digital real-

ity). T20 (pos. 74 – code: less listening to body during physical activity) brings up another unwanted effect of digital health technologies such as heart rate watches when students likely pay more attention to the device itself than to their individual body signals.

These statements show that PE teachers feel responsible for the health and fitness levels of their students. For them PE mainly has the function to counterbalance an unhealthy sedentary lifestyle that is also partly caused and promoted by an ongoing digitalization and technological innovations. Observations during the Covid-19 pandemic might have also contributed to this perspective. PE teachers have likely noticed an increase in screen time that might correspond with a decline in and less motivation for physical activity among their students (Jester & Kang, 2021). However, in the context of digital health education the subject PE is then constructed as an alternative world to the social-cultural reality of exercise and fitness neglecting current digital developments and trends in the domains of sports and health (Lutz et al., 2019; Rode, 2021; Schwier, 2020). By keeping PE entirely screen-free it is not made possible for students to comprehensively experience, discuss and develop their individual stance on subject-specific digital phenomena.

Limitations

While the qualitative interview study allowed for deeper insights into the subjective perspectives of PE teachers on the research interest, there are also limitations of the adopted research approach. First, the sample only comprises teachers that were willing to participate in the survey during a certain period and whose interest in current educational topics in the digital age and commitment might be above average. Second, the research subject is informed by an explicit theoretical framework, which might have had a (subtle) influence on the inductive coding and theme building process. Third, while the results function as a case study of Austrian PE teachers, the generalization of conclusions might be limited by sample size (Yin, 2013) as well as regional and cultural specifics of the educational system. Finally, the article does not pro-

vide insights into possible changes of the interviewed teachers' perspective over time – focusing, for instance, on their post-pandemic experiences – and the perspectives of students or other stakeholders within the school system on the topic digital health education and its relevance. This could be worth exploring in future research projects.

Conclusion

Digital health technologies and social media convey certain ideas of the human body, physical activity, performance and health and at the same time allow for new ways of self-representation. Adolescents “are particularly susceptible and vulnerable to the reading and the embodiment of visual forms of high-status codes of fitness and health” (Azzarito, 2019, p. 48). The understanding and appreciation of young people's individual body and health as well as their motivation and goals for physical activity seem to be crucially shaped by a fitness and health culture that predominantly takes place online, a trend that has further accelerated during the Covid-19 pandemic. Therefore, it is also relevant for school settings and the subject PE to address topics relating to health in the digital age constructively and critically. In this context supporting students to develop a positive physical self-concept can be regarded as an overall objective and integral task of PE.

PE teachers seem to be aware that wearable technologies that measure health and performance data, easily accessible online fitness channels and body images transported through social media platforms are relevant for how adolescents understand health and approach physical activity (Goodyear et al., 2019b). This is indicated by the fact that some teachers express a sensitivity for normative representations of the human body in social networks and are concerned not to present and idealize such images in their PE classes. However, the complexity and ambivalence of health-related topics in the digital age is only rarely addressed in a reflexive way with students. Rather, a functional understanding of health seems to deter-

mine pedagogical practice. According to the interview data it can be argued that regarding digital health education one of the main objectives of PE teachers is to promote physical activity and sports engagement of their students. This might have also been influenced by PE teachers' experiences and observations during recent school lockdowns and distance learning. Hence, digital health technologies are either mainly utilized as a tool for functionally oriented health promotion or PE is presented as a technology-free and healthier alternative to the increasingly digitalized world that exists outside the school gym. Conversely, in the context of digital health education PE teachers only rarely address the digital culture of health and fitness in a holistic way from different perspectives.

Modern PE that deals with sports-related societal and educational developments and trends (Balz, 2009) and relates to the daily lives of students should also constructively address the health- and fitness-oriented lifestyle(s) of adolescents and its digital aspects (Jastrow et al., 2022; Rich et al., 2020). Therefore, it is insufficient to simply reproduce digital exercise programs and fitness challenges or to neglect digital phenomena of sports and health altogether in PE classes. Students should rather be encouraged to express and discuss their interests, feelings, values and needs pertaining to the digital culture of health, body, exercise and fitness (Goodyear et al., 2019b; Theis, 2022). In doing so, adolescents can be supported to use digital health technologies and social networking services in an informed, responsible and self-determined way.

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Data availability statement

All relevant data are within the paper.