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Competing for ideal bodies: a study of exergames used as teaching aids in schools

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Since the development of the welfare state, the Swedish school subject Health and Physical Education (HPE) has been regarded as an important site for public health work, and still assumes a central role in promoting the health of the coming generation. A specific type of health intervention, promoted by researchers in recent years, is the use of so-called exergames. In some countries, these fitness games are used as teaching aids in physical education classes and can be seen as examples of how public health issues and popular culture are shaping HPE in schools. The aim of the study reported in this paper is to examine which messages about health and body are offered, and how these are expressed in some of the fitness games used as teaching aids in school. The results of the study highlight the dangers of using exergames in the teaching of HPE in schools. The messages communicated by the games have a number of potentially harmful consequences, particularly with regard to the creation of specific health and bodily norms based on a measurable ideal. The use of this tool in education is thus far from value free, and the problems that might be solved when using the games are not necessarily the ones that education should privilege.

Keywords: health education; exergames; ideal body; physical education; collateral learning

Introduction

The relationship between public health discourses and health education in schools has been part of a critical debate among scholars within health research in recent years (e.g. Gard and Wright 2005). In this debate, the dangers of uncritically embracing discourses of certain body ideals in school-based health education are often in focus (Gard and Kirk 2007; Evans et al. 2008; Halse 2008; Wright and Harwood 2008). Another concern is about the moral norms embedded in public health discourses, and how these constitute health almost entirely as the responsibility of the individual (Connell 1990; Lupton 1995). This critique follows a debate initiated over 30 years ago when Crawford (1980) argued that a medicalised notion of health underlines a private and individual responsibility for health in terms of individuals becoming both the problem and the solution. Research to this point on healthism and the body has focused on media texts, school health and physical education and students' engagement with these. In this

article, we examine one of the more recent practices instituted in schools in the name of improving young people's health and fitness, the use of video games or exergames. In this paper, we will provide an example of how public health discourses and popular culture through these games shape the way health is becoming embedded in schools and how the games, as Wright and Halse (2013) recently have argued, 'instruct children on how they should come to know and act on themselves in order to be (come) healthy bio-citizens' (1).

In recent years, so-called exergames have been promoted as an interesting technological solution in schools in relation to physical activity and young peoples' sedentary behaviours (Papasterigou 2009; Chen 2013). These games are simulated activity games, sports games and fitness games, where the player stands in front of a TV screen holding a remote control and carries out different kinds of physical activities. Millions of these games have been sold throughout the world, and in some countries (e.g. Sweden, Australia, USA, UK and Singapore) they are used more and more in schools as teaching aids for increased physical activity, especially in Health and Physical Education (HPE) (Vander Schee and Boyles 2010). As Ennis (2013, 154) points out, 'developers, teachers and epidemiologists have held high hopes for exergaming to provide a central activity in public health-oriented PE curricula'. Answering the call from Ennis to further explore the educational aspects of exergames, this article critically examines *how* exergames, used as teaching aids in school, take form and, as a consequence, what messages about health and the body are offered as teaching content in HPE. In so doing, we wish to explore how these practices function as governmental mechanisms to incite individuals to undertake privileged technologies of the healthy citizen. Inspired by Wright and Dean (2007, 78), we will problematise the ways health and the body are constructed in the game, the fears and desires that are produced and 'their likely effects on how people come to "know" themselves and their lives'.

We argue that although exergames are promoted as a fun and effective way for schools to develop students' health (Papasterigou 2009; Chen 2013; Ennis 2013), there is a need to scrutinise the potential dangers of these games in teaching HPE in schools. We will demonstrate below that the messages communicated in the games have a number of possible negative consequences, particularly with regard to the creation of unrealistic health and body norms. They potentially promote a particular form of normality and demarcate and classify what it is to be human; that is, they promote a certain kind of bio-citizen, whose body and health is valued because of its conformity to a measurable ideal. The games' messages do not only equip students with knowledge about health and the body, they also guide students towards an understanding of the kind of person they ought to be or become. In this way, the introduction of this educational tool – as with any kind of educational technology – is far from value free (Almqvist 2005). We argue that the educational problems that are possible to solve when using the games are not necessarily the problems teaching should privilege.

Background

Research into the use of exergames in education shows that the games are often portrayed as an effective health intervention for use in schools (see, e.g. Jacobs et al. 2011; Sell et al. 2011; Chen 2013). There is a considerable amount of research pointing to the benefits of including exergames in school contexts for improving physical activity, fitness and addressing obesity (e.g. Papastergiou 2009; Guy, Ratzki-Leewing, and Gwadry-Sridhar 2011; Staiano and Calvert 2011). Papastergiou (2009), for example,

argues that exergames can provide the 'potential benefits as educational tools for HE and PE, and that those games may improve young people's knowledge, skills, attitudes and behaviours in relation to health and fitness' (603). Most arguments for the use of exergames in school in the research literature are about the benefits of including exergames in HPE in relation to fitness and, eventually, to help combat obesity (Papastergiou 2009; Guy, Ratzki-Leewing, and Gwadry-Sridhar 2011; Staiano and Calvert 2011). The games can, according to several studies, provide a tool to increase physical activity levels and thus improve the fitness and health of young people (Fogel et al. 2010; Jacobs et al. 2011; Sell et al. 2011).

There are few dissident voices to this general acclaim for exergames. The few scholars criticising the use of exergames in schools argue that games can be harmful to some students' self-image (Song, Peng, and Lee 2011) and that games are a problematic tool in the constant control and management of people's bodies in a risk-based society (Millington 2009; Vander Schee and Boyles 2010). Vander Schee and Boyles (2010) also point to the ways students' bodies become commercial spaces in education as schools become dependent on the company providing the appropriate products.

With a few exceptions, then, there seems to be significant agreement in the research community that the introduction of exergames as a teaching tool in HPE is a positive thing for students' learning as well as their health (Ennis 2013). Exergames are seen as a fun and modern way to engage in or promote physical activity, but they are, as we see it, introduced into education quite uncritically. Research in this area has so far neglected to explore the consequences of the introduction of exergames as a teaching aid in school, or critically discuss their use in terms of educational values and student learning (Ennis 2013). We can accordingly see that the arguments for using exergames in HPE echo contemporary public health discourses focusing on the relationship between physical activity, fitness and obesity (Gard and Wright 2005). The games also fit nicely into the healthist education already criticised by Crawford (1980) in terms of individual responsibility for health where schools are seen as an important health intervention site and where students are supposed to demonstrate individual responsibility in a performative environment.

Theoretical and methodological considerations

The study takes its point of departure in a discourse-analytical tradition in the sense that it involves a specific view of the role of language in the social construction of the world. It is in the concrete use of language that ideas, truths and knowledge are formed, reproduced and changed, which means that people's ways of creating meaning about the world and themselves occur in language (Wetherell, Taylor, and Yates 2001; Winther Jørgensen and Philips 2002). In this way, language represents a system of knowledge that has social consequences, in that certain knowledge portrays certain actions as more reasonable and true than others (Foucault [1976] 1980).

Language is not arbitrary, but follows patterns and systems, or discourse, that is, a certain way of speaking, thinking and acting in a particular field (Winther Jørgensen and Phillips 2002). When talking about discourses in a Foucauldian way as regular language rules that allow certain statements and actions to be made, an important question to ask is what the political and social consequences of the discursive practice might be. It is thus a matter of how dominating discourses in society impact discursive practices in terms of facilitating or restraining action. Hence, the concern is about 'identifying the ways in which human beings are individuated and addressed within the various

practices that would govern them' (Rose 1999, 43). These governing processes lead to a particular demeanour on the part of the individual, something that Rose (1998, 12) refers to as tactics for 'the conduct of conduct'. This is characterised by the establishment of a relation between prescribed actions and the individual's own responsibility to act in line with these; a relation between being governed by and governing oneself. According to Foucault (1976–90), this kind of self-governance involves the way in which individuals learn, apprehend, judge and regulate themselves in relation to what is generally accepted. We do not act and think in certain ways because we are compelled to do so, but because we consider that certain ways of acting and thinking are important. This kind of governance draws on Foucault's concept 'biopower': 'the governance and regulation of individuals and populations through practices associated with the body' (Wright and Halse 2013, 2).

In order to explore these forms of governance in an educational perspective, we also turn to John Dewey's concept *collateral learning*. For Dewey, collateral learning is a tacit and indirect part of education. Dewey argues that:

> Perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular thing he is studying at the time. Collateral learning in the way of formation of enduring attitudes of likes and dislikes, may be and often is of much more important than the spelling lesson or lesson in geography or history that is learned. For these attitudes are fundamentally what count in the future. (Dewey [1938] 1997, 49)

Collateral learning is thus the often subtle and tacit learning occurring while a teacher is busy teaching and, in this case, by a technological teaching aid like exergames. So, by focusing on messages about health, the body and self in the games, we can also say something about the collateral learning that is potentially involved; in this case, the shaping of the 'self' as a worthwhile person in terms of how to know oneself, act on oneself and change oneself in order to become a healthy bio-citizen. In order to explain which knowledge, norms and values are offered, the analysis in the paper concentrates on those actions that, in the specific activities in the exergames, steer people in a certain direction towards the kind of healthy citizen they ought to be or become (Rose 1999). These proposals need to be critically examined because when these games are used as technological solutions to health problems in schools, they can be seen as an important part of both the teaching content and students' learning.

Empirical material and data analysis

The study presented in this paper is part of a larger research project called Learning and Exergames in School, funded by the Swedish Research Council, exploring the learning about the body, physical activity and health that takes place when young people play exergames. In this particular study, the empirical material consists of fitness games, particularly Wii Fit Plus, that according to a review of both research and popular literature is the most popular fitness game used in schools as a teaching aid in HPE (Quennerstedt et al. 2013). The game is accordingly treated in the same way as other discourse analyses of teaching aids in schools, for example textbooks and Internet websites in health education (Wright and Dean 2007; Wright and Halse 2013).

In this study, both the game's instruction manual and the content of the game itself are analysed. The study includes a two-step analysis:

(1) In the first step, the games were played through repeatedly by four researchers participating in the larger project. Since several researchers were involved, it was possible to record gameplay through video (resulting in seven hours of film) and to take notes from the discussions directly connected to the gaming. Based on these descriptive data, we went back to the games and highlighted particularly interesting sequences that formed the basis for a more detailed analysis.[1]

(2) In the second step, the video recordings and the notes were analysed in terms of the instructions, comments and animations used in the game. The questions were: what messages about health and body appeared in the games? What values and norms were communicated? How ought the students to act and what were they expected to learn? In this way, the analysis focused on which messages about health and the body manifested and also the collateral learning in terms of the shaping of 'the self' that followed.

In the following section, we present our analysis and interpretation of the messages about health, the body and the shaping of the self. Since the analysis was a constant interaction between the recordings of our own play, the notes and manuals, the results of the two analytical steps are described below in tandem.

The training of particular kinds of selves

The overall message in the advertising blurb for the game is that it provides beneficial and enjoyable ways of exercising. For example, the instructions booklet for one of the fitness games states: 'have fun and get fit' (Wii Fit Plus Instruction booklet), and in one of the other fitness games instructions further guide players towards 'a journey to a better you' (Sports Active 2 gameplay). These statements are clearly not just about health, but also about what kind of person you should be. You are a better person if you become fit. By corollary, if not fit, you are not yet good enough. Judgements about moral worth seem to be recited throughout the games. But what is the 'journey' about? Generally it is about improving yourself, being a good and healthy citizen and escaping the enemy – *body fat*.

By emphasising the 'journey to a better you' as fun, the journey is tied to *positive* emotions. The player is instructed in how s/he should feel. The game provides instruction on the appropriate way to experience vigorous physical activity – hard work is about experiencing pleasure and having fun. To not enjoy physical activity and thus the 'journey' is also to be less worthy or normal. Fun and pleasure are the ways to feel when striving for fitness and a better you. The question is what this 'better person' ought to be(come)?

A journey to the ideal body – a better self

One clear message of the game is to strive towards the ideal body, which is both a goal in itself and the main reason given for playing the fitness games. At the beginning of the game, the players are encouraged to imagine their ideal body: 'While you're exercising, imagine your ideal body!' (Instruction Wii Fit gameplay). The invitation to 'imagine your ideal body', suggests that the players themselves can decide what an ideal body is. Ideas about choice and self-determination are evident; that is, the mantra

of freedom emerges in a clear way. However, this ideal body has already been deter-mined. The freedom to decide on the ideal body is only possible if the imagined body is in line with the pre-determined ideal. When playing the game for the first time, you are instructed to: 'Create your own profile where your BMI, Wii Fit Age and training history will be recorded' (Instruction Wii Fit gameplay). This is compared to the desir-able body in the game, which is constituted as a BMI measure, i.e. the relation between the person's height and weight. In the game, the ideal body has an exact BMI value of 22. This claim is justified by pointing to scientific arguments, which are hard to resist: 'Statistically, people with a BMI of 22 are said to be the least likely to get sick' (Instruction Wii Fit gameplay). This then makes the question for the individual player in the game – 'How would you like to work towards a BMI of 22?' (Instruction Wii Fit gameplay) – reasonable and worth striving for.

Figure 1 illustrates the screen when the player of the game has reached the ideal weight at the weigh-in. To begin with, the cartoon figure (the Mii figure) jumps up and down with excitement and expectancy at what the BMI value might be. Lights flash and tension is increased with the message: 'Three, two, one – measure, measure, measure – Done!' (Instruction Wii Fit gameplay). Here, the BMI value is registered as 21.64 and the slim Mii figure gives the thumbs up.

In the illustration, there are four possible categories for the player at the weigh-in. In the animation, the Mii figure expands as the number of kilos increases, i.e. gets big-ger and bigger if the player is categorised as overweight. If the weight of the player is in the overweight category, the animated figure looks sad and slouches forward, which indicates that you are not (should not be) happy or even healthy if your BMI calcula-tion equates with being overweight. The animated character's behaviour works through defining what is undesirable and associating this with feelings of shame (see Rose 1999). There is considerable affective value in 'looking right' and being acknowledged
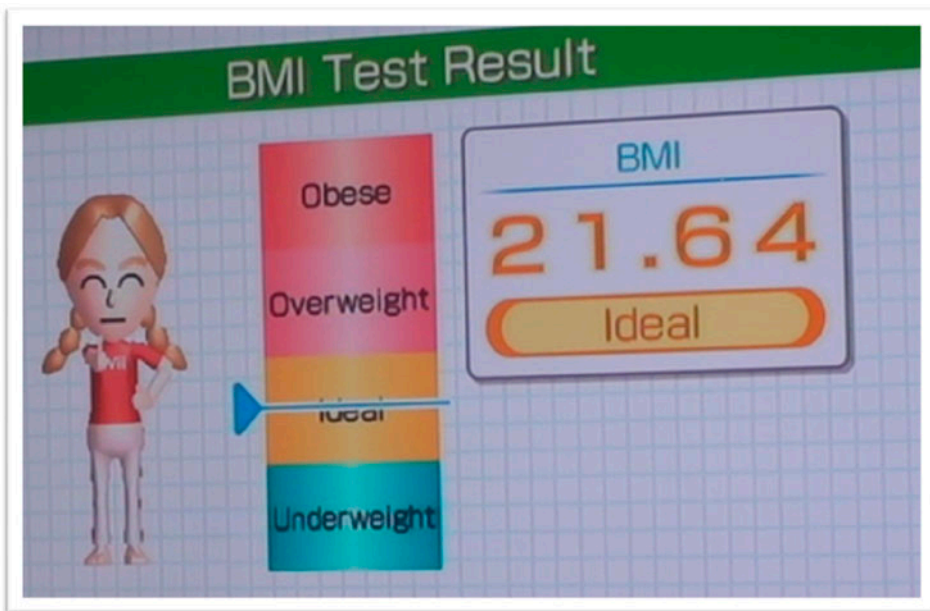

Figure 1. An illustration of the BMI-value (Animation Wii Fit gameplay).

as a good person: if you have the right weight, you have good reason to be happy. There is also an affective loading of what happens if you do not look right; you should feel sad about this. What is at risk is that you are failing on 'the journey to a better you'. Players are expected to admit their successes or failures to themselves in relation to the ideal body weight and shape. Reflecting on one's actions and oneself in relation to normality (the ideal BMI) demonstrates the staged guidance the game provides to the players as they undertake their journey towards self-governance and thus 'a better you'.

Aiming for a BMI of 22 indicates a drawing up of boundaries that are not only about reaching a bodily state, but also signals a specific normalisation and idealisation of the body's shape. As Wright and Halse (2013, 3) state, 'BMI presumes that there is a "normal" and identifiable weight that is constant and "true" across genders, time, and cultural and socio-economic boundaries'. An ideal weight is thus foregrounded as a way of achieving health and well-being, where health becomes synonymous with an ideal weight and, as we will see below, youthfulness.

Shaming as a major strategy of the game

As described above, the games define what is desirable or undesirable and often associate this with feelings of shame. This is also apparent when it comes to body movements and age. The player receives a Wii Fit Age that is based on their BMI and a number of balance tests. In the game, the player is told: 'I used your test results and your actual age to calculate your Wii Fit Age' (Instruction Wii Fit gameplay). The player's balance is measured and tested in different ways. If your balance is good, you receive feedback in terms of: 'Your balance isn't bad at all' (Instruction Wii Fit gameplay). If the test result is not within the framework for the desired value, players can be told that: 'The Basic Balance Test obviously wasn't your cup of tea. Do you find yourself tripping often when you're walking?' (Instruction Wii Fit gameplay). This comment directly targets a person's feeling of self-worth – who wants to be awkward or clumsy, and especially within a public educational space like HPE in school?

The 'coach' in the game further asks rhetorical questions to remind the players of their responsibility not to be clumsy. 'Do you find yourself tripping...?' appeals to the individual's own assessment of his or her actions, allowing the players themselves to recognise how far they are from being a worthy or, in this case, competent person. Am I a person who is clumsy, one to whom shame is attached, or am I a person who has a good balance? Assessment of moral worth thus goes beyond weight and body shape to skill and correct body movements. 'The Basic Balance Test obviously wasn't your cup of tea' means that you cannot even move correctly. This echoes the operation of performance and perfection codes as described by Evans, Rich, and Holroyd (2004). Appealing to the players' own assessment of their actions in relation to the established norm of correct body movements facilitates their uptake of the self-problematisation tools underpinning self-governance.

Wii Fit age is another number that serves to introduce an ideal, in this case, the ideal is the player's actual age. When the Wii Fit age is shown to be more than the actual age of the player, the following comment is common: 'Oh dear. That's a difference of +20 years. That would mean that your body is much weaker than it should be' (Instruction Wii Fit gameplay). This comment characterises the player as an old person with the limitations that are assumed to be part of aging. Utterances like 'Oh dear' and 'much weaker' are patronising and clearly indicate that the player's current status is undesirable and shameful. The recalcitrant player is then instructed on how regular

exercise can check aging and on how their body can become fitter and more youthful: 'Your personal fitness goals may even lower your Wii Fit Age' (Instruction Wii Fit gameplay). Like other assessments in the game, comparisons with the ideal set-up by the game are likely to engender strong emotions: pride if you succeed or shame and guilt if you do not (see also Leahy in this Special Issue). By way of illustration, the following example is provided of how the researchers, and authors of this paper, who played the game responded to their personal assessment. All of us were physically active at the time of playing and in middle age and expected, if anything, to get an age younger than we were. The one player who received a younger Wii Fit age was applauded and the disappointment was obvious when the others were awarded a Wii Fit age older than their actual age, some more than 15 years older. These assessments affected us for the rest of the day and possibly for longer. Here, we are struck by the aptness of Rose's (1999, 11) argument that 'through self-inspection, self-problematisation, self-monitoring and confession, we evaluate ourselves according to the criteria provided for us by others'. These criteria in this case are those provided by a game, which only takes into account calculable relationships based on 'norms' that have questionable validity (see Gard and Wright 2005). 'The better you' by these norms is a healthy citizen who has a BMI of 22 and is younger than their actually age. Having set this standard, and for many players their deficiency in relation to them, the game then instructs on how to achieve this ideal.

Fight the enemy – burn your 'body fat'

The most important and consistent way of achieving the ideal body promoted by the game is by burning calories. In most of the activities, there are constant reminders to burn more calories: 'Swing your arms in big circles to burn more calories' (Instruction Wii Fit gameplay) and 'Throw punches in time to the rhythm. This will help you burn your body fat' (Instruction Wii Fit gameplay). The amount of calories consumed is formulated in terms of a reward system. It is partly achieved through verbal encouragement in terms of frequently recurring utterances while you are active: 'Well done!', 'Great job, keep it up!' or 'You're doing fine!' The player is encouraged to participate vigorously, and what is being praised is that self-governance works, i.e. that the players show that they are active. Standing still, in the dual sense of physical inactivity and personal development, means failing to fulfil one's obligations as a self-regulating and responsible individual.

The number of calories used is also calculated after each completed activity: 'With Wii Fit Plus you can see how many calories you've burned after an activity' (Instruction Wii Fit gameplay). When it comes to activities like aerobic exercises, it might seem reasonable that the objective of the activity is the burning of calories. But activities that are not usually associated with calorie consumption also have this focus, e.g. balancing exercises, yoga and snowboarding. An estimation of the calories burned is common in all activities: 'When you complete an activity, you will be given a score based on your performance. An estimate of the calories burned in this activity will also be displayed' (Instruction Wii Fit gameplay). Calculating calorie use in activities like yoga and snowboarding might seem absurd in relation to their usual motivations, since these activities traditionally focus on the experience, emotions and senses. The game thus creates particular ways of understanding all kind of activities in terms of calories that will be consumed.

Competing for fitness and thus a better you

Competition, not only with oneself but with external standards, is used throughout the game as a means to induct participants in practices of self-governance commensurate with good healthy citizenship. Competition is assumed to be motivating and the resultant feelings of success or failure are assumed to encourage individuals to continue 'the journey'. This takes the form of external, apparently objective assessments of bodily activities, which are about getting more points in order to achieve a higher ranking, i.e. beat the record: 'When you have completed an activity, you will be given a score based on your performance. If your score ranks in the top 10 performances for the activity, it will be recorded' (Instruction Wii Fit gameplay). Frequently occurring expressions are to 'get as many points as possible' and 'compete for first place', and the general instructions prior to each game are focused on 'winning the game'.

The language used in the game, 'Your Wii Fitness is calculated by competing' (Instruction Wii Fit gameplay), presents a specific way achieving health – compete, win and get healthier. However, it is important to point out that this competition logic is not the main goal of the game, but simply a means for reaching the goal of health: 'By testing and training your body like this on a daily basis, you'll improve your overall awareness of your health!' (Instruction Wii Fit gameplay). Improving *your* overall awareness of *your* health is directed to ethical work in the name of improving your life (see Wright and Dean 2007). It requires subjects to act upon themselves: to monitor, test, improve and transform their conduct and in so doing, engage in constructing a particular self, according to specific social and cultural demands (Rose 1999).

The overall logic of the game is thus about producing results, by means of points, ranking, gold stars, graphs, diagrams, bar charts and assessments of various kinds, and each player receives a measurement and a value of his or her body and its physical status. The body is defined on the basis of quantifiable measurements with the aim of stimulating better results: 'A body test allows you to monitor your progress' (Instruction Wii Fit gameplay).

Measuring every aspect of performance also constitutes the idea that the able body is always a calculable body. Working in the direction of maximisation is characteristic of the commentary of the game; in the game the body can always be improved, thereby achieving a better result and ranking. The game thus builds on a value system that focuses on objective assessments of performance and results. This means that people can always improve their awareness of health through objective assessment and ranking – they can always strive for a better number (BMI, age, calorie consumptions, scores, etc.); they can get to know their body and state of health through numbers (see also Lupton 2012). Health and the body are accompanied by the idea that it can always be measured, ranked and valued by objective assessment, and the individuals are thus invited to compare themselves against these ideal norms.

We have so far established that by means of a competitive logic as a motivation, students playing the game in schools are encouraged to work towards a state of health and a better self in terms of an ideal body. Or put another way, an ideal body is a healthy body and thus a better person. In the next section, we will discuss the results in relation to public health discourses in Sweden: what permits the Wii Fit Plus to be used in HPE classes in Sweden? Addressing this question points to the importance of context and encourages similar reflections by educators and researchers in other social contexts.

Understanding exergames in the context of public health discourses in Sweden

Since the development of the welfare state in Sweden, health in school has been considered as an important forum for health work, and schools still assume a central role when it comes to health promotion of the coming generation. In the Swedish context, health has also been regarded as an important part of the democratic project, in that it is the 'good society' that is formulated in societal public health goals (Ministry of Health and Social Affairs 1999). To this end, participation, social relations and a comprehensive political responsibility for health in general are accentuated (Vallgårda 2007). Vallgårda also argues that, in contrast to its Scandinavian neighbours, the context of Swedish public health policy more clearly emphasises common values like equality and equal rights. The significance of the welfare state is accordingly important in societal health efforts in Sweden, and almost no area is exempt.

The care of the body through *physical exercise* that was actualised in the development of the welfare state in Sweden is still in focus today, and messages of the importance of exercising and strengthening our bodies are, and have for a long time, been emphasised and promoted in public health discourses and in Swedish schools (cf. Öhman and Quennerstedt 2008; Webb, Quennerstedt, and Öhman 2008). Ling gymnastics (Swedish gymnastics) with a focus on good posture, harmony and balance, for a long time, held a strong grip on how to understand the relation between physical activity and health in the public health discourse (Quennerstedt, Burrows, and Maivorsdotter 2010). In the 1960s, the agenda gradually changed, fuelled by an extensive physiological and medical research agenda agitating for moderate to vigorous physical activity thrice a week, and health in schools became more focused on improving oxygen uptake.

From the 1980s, however, in line with the WHO Ottawa charter, a wider notion of health including physical, psychological and social aspects of health has influenced the ideas about the relation between physical activity and health (Quennerstedt, Burrows, and Maivorsdotter 2010), not least in schools where the national syllabus adopts a wide and more holistic notion of health. At the same time, a focus on health-promoting physical activity for children and young people precipitated by the changes to the Swedish curriculum in 2003, which emphasise the responsibility of the school to offer daily physical activity for all students, points towards a more risk focused idea of health targeting the health risks of an overweight population. In Sweden, other clear illustrations of this include advice from the Swedish Food Agency about obesity and eating habits and the guidance given to schools by the Swedish National Institute of Public Health on increased physical activity as an important public health policy. These discourses have significantly affected the role of HPE, and in this context, health in HPE is equated with physical activity. The more students are physically active, the healthier they are, and it follows the logic that anything that increases physical activity is viewed as good. From the perspective of teachers, exergames are fun and engage children with little supervision (Ennis 2013), so it is not surprising then that Wii Fit has become popular in schools.

In the same way as Wright and Dean (2007) show how discourses associated with the obesity epidemic are taken up in schools as disciplinary practices in the form of HPE programmes, exergames used as a teaching aid in school are a good example of the close relationship between public health discourses and health education in schools. It is not surprising or not even particularly controversial that public health discourses concerning inactivity, fitness and body weight affect the content of school subjects

concerned with issues of health, especially when these health problems are often high-lighted as the most alarming health problems for society's citizens (Gard and Wright 2005). As Shilling (2008) points out, schools have traditionally been involved in regulating and disciplining the activities of pupils and seeking to transmit culturally sanctioned norms and habits.

Conclusion

In this article, we have shown how exergames, used as teaching aids in school, are shaping the way health is becoming embedded in schools and how the games in this way 'instruct children on how they should come to know and act on themselves in order to be (come) healthy bio-citizens' (Wright and Halse 2013, 1). The collateral learning in the game potentially promote normality; they demarcate and classify what it is to be human in different respects – a certain kind of bio-citizen where a specific kind of body and view of health is valued on the basis of the ideal and the measurable. The games messages do not only equip students with knowledge about health and body, however, but also guide them towards an understanding of the kind of person they ought to be or become. Our results show that physiological ideas about health also involve, as a collateral learning, the production of a particular kind of body and a par-ticular kind of self. The messages in the game, where health and the body are relating to appearance, beauty, youthfulness and slenderness, intensify the approach to health and body that has been characterised as healthism (cf. Crawford 1980; Gard and Wright 2005), or a 'cult of slenderness' that has become more encompassing and 'endorsed by State [in the context of] the social panic around an "obesity epidemic"' (Wright and Dean 2007, 77).

We have also shown that references to health and fitness in the Wii Fit game are about disciplining and improving the self, and a particularly narrow and limited notion of the healthy citizen. Calculation and comparison, shaming and denigration contribute to the regulation of the body and self. The individuals become part of a bodily project – a journey – where they should always be striving to improve themselves in relation to an ideal body that is already determined. This message has both ethical and moral content, as the game establishes particular 'truths', sets up norms and encourages self-assessment and self-monitoring related to maintaining health, a fit body and a good citi-zen (Rose 1999). The messages thereby ignore both individual differences and other aspects of health related to political and democratic concerns.

The game also offers a particular way of thinking about and understanding sports and physical activities. The value of activities comes to be understood in terms of calo-ries that will be consumed. No mention is made of the aesthetic elements or possible pleasure in movement. Snowboarding, yoga and all other activities are reduced to the common denominator where they are valued for as exercises with a calorie burning capacity.

Although research may provide a positive picture of using exergames as an activity in a public health-oriented curricula and portray the games as an effective health inter-vention, we instead want to highlight the importance of a critical examination of how the games communicate messages about health and body and the collateral learning these messages entail. Even if these games offer a fun way for students to be physically active, the Wii becomes entertaining rather than teaching. The collateral learning offered in the game may be satisfying for those students who succeed, but are likely to be 'unhealthy' for the many students who are subjected to negative evaluations and

shaming (see also Wright and Dean 2007; Evans et.al. 2008). The students who fail to achieve the normative standard are 'excluded from an identity of looking and feeling good, and [are] in addition held to be personally responsible for this exclusion' (Wright and Halse 2013, 11).

The results of this study can help raise teachers' awareness about which approaches to the body and health – implicit or explicit – they want to promote in their teaching, and accordingly the value of using different kinds of teaching aids as technological solutions to health problems. However, it is important to emphasise that our study does not provide any knowledge about how the messages are received by students. Rather, it makes visible how the language of the game informs individuals how they should live their lives and come to know themselves as healthy citizens.

Note

1. In line with Aarseth's (2003) methodological suggestions we have chosen to play the games ourselves. He claims that with hands-on playing experience the analysis has the best potential for success. But we have also added observations and video recording of those who play.

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