



RESEARCH

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ABSTRACT

Background: Weight stigma is highly present in physical activities in the lives of adolescents with overweight. Nevertheless, increased physical activity is one of the target lifestyle determinants in health workers' follow-up with adolescents at risk of negative weight development. The present study examines how adolescents with overweight and school health nurses who monitor and guide these young people perceive weight stigma in physical activity.

Methods: We interviewed a community sample of 10 adolescents (13–18 years) with overweight or obesity and six school health nurses about weight stigma in physical activity. Data were analysed using reflexive thematic analysis.

Results: We generated three main themes describing experiences with weight stigma in physical activity. 1) 'being (in)visible' identified contradictory motives of both wanting to hide their body to avoid being on display and at the same time working hard to be physically active to disprove the stereotypical view of people with overweight, 2) 'being perceived as unacceptable' identified adolescents' understandings of themselves as individuals who ought to transform into a slimmer version through exercise and 3) 'dealing with social interaction' identified different strategies used to handle the stigma.

Conclusion: Insight into adolescents' complex experiences with weight stigma related to physical activity and follow-up with school health nurses is essential to inform approaches to increase physical activity participation without reinforcing weight stigma.

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BACKGROUND

et al. 2018; Maïano et al. 2018).

Weight stigma is the rejection or marginalisation of people due to negative perceptions of overweight (Puhl and Brownell 2006). It is highly present in the lives of youth living with overweight or obesity (Puhl and Luedicke 2012; Puhl et al., 2011; Haines et al. 2008). Weight stigma can be particularly damaging when experienced in adolescence, as it can lead to longlasting negative consequences on their psychological, social, academic and physical well-being (Bucchianeri et al. 2014; Ievers-Landis et al. 2019; Carr and Friedman 2006; Friedman et al. 2005). Experiencing stigmatisation can lead to considerable emotional distress and unhealthy behaviours that exacerbate poor weight-related health, such as increased food intake and decreased physical activity (Puhl and Lessard 2020; Bucchianeri et al. 2014; Jensen and Steele 2009). This may in turn contribute further to future weight gain (Puhl and Heuer 2010; Puhl et al. 2017; Haines et al. 2007; Schvey et al. 2019; Hooper et al. 2022). Increasing physical activity is one of the target lifestyle determinants in health workers' follow-up with adolescents at risk of negative weight development in Norway and many other countries (Norwegian Directorate of Health, 2010). Still, everyday physical activity contexts, such as organised sport and physical activity in school, entail the risk of experiencing weight stigma. Teasing and bullying by peers, humiliation and feelings of insecurity about appearance are highly present in these settings (Chen et al. 2010; Lewis et al. 2014; Li and Rukavina 2012; Li et al. 2012; Reece et al. 2016; Oen

The notion of weight stigma is based on Goffman's (1968) theory of stigma as 'an attribute that is deeply discrediting' (p. 13). Goffman's theory is relevant to understanding how adolescents with overweight experience weight stigma in physical activity, as it highlights that stigma is produced through social interaction. Goffman's definition of stigma refers to an individual having an attribute, trait or disorder that is perceived as unacceptably different from others and that provokes some form of community sanction. These perceptions constitute weight stigma, which leads to social rejection and devaluation of 'those who do not comply with prevailing social norms of adequate body weight and shape' (Tomiyama et al. 2018). People with overweight are commonly stereotyped as lazy, lacking in willpower and self-discipline, unmotivated to improve their health and personally to blame for their weight (Puhl and Heuer 2009; Malterud and Ulriksen 2010; Pearl 2018). Overweight bodies constitute a highly visible attribute that cannot be hidden from view in social encounters. Thus, people with overweight or obesity are forced to present and manage the stigma in social situations, such as physical activity settings with peers. The experiences of weight stigma can be both enacted (actual discrimination) and felt (fear of enacted stigma) (Scambler 1998, Scambler 2009) or can take the form of internalised weight bias (Corrigan et al. 2001; Durso and Latner 2008).

To guide interventions and follow-up, several studies have emphasised the need for health workers to expand their understanding of personal experiences, resources and the complex conditions that follow being an adolescent with overweight or obesity (Lachal et al. 2013; Reece et al. 2016; Rees et al. 2014; Morinder et al. 2011; Fung et al. 2019; Oen et al. 2018). Lachal et al. (2013) suggested that health workers' understanding of obesity should be developed by incorporating children's personal experiences with obesity in order to match treatment plans to children's needs and expectations. Therefore, young people need to be actively engaged in research and policy to address the social implications of living with overweight and obesity (Rees et al. 2014).

In Norway, school health services are the major arenas for health promotion and preventive initiatives for adolescents. School health nurses, who specialise in children's and adolescents' health, are the key personnel for promoting healthy habits to adolescents and their parents. As part of the health and development monitoring of school-aged children in Norway, school health nurses record students' weight and height at mandatory measurements in Grades 3 and 8 to detect if a child is at risk of developing overweight. School health nurses screen for factors that may impact children's and adolescents' weight development, such as family circumstances, physical activity, diet and illness. It is recommended that school health nurses follow up with or treat children or adolescents with a gender and age specific body mass index ISO-BMI ≥ 25 (Cole et al. 2000). Follow-up and treatment in school health services focuses on motivating changes in physical activity and diet (Norwegian Directorate of Health, 2010).

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Through a review on links between weight stigma/weight-based victimisation and physical activity in adolescents with overweight or obesity, we found that much of the relevant research has been conducted outside of Scandinavia (Skogen et al. 2022). In addition, few studies have been conducted with samples not enrolled in medical or clinical treatment. Furthermore, few studies have specifically explored adolescents' experiences of weight stigma in relation to physical activity and how these experiences affect physical activity participation (Skogen et al. 2022). To the best of our knowledge, no qualitative studies have described how adolescents with overweight or obesity experience weight stigma related to physical activity and included the perspectives of the school health nurses. Increased knowledge of how this group experiences physical activity is important to facilitate physical activity engagement and follow-up without reinforcing weight stigma.

Therefore, this study explores the weight stigma related to physical activity as narrated by adolescents with overweight or obesity as well as the school health nurses who work with these adolescents in school health services. Our research question is: How do adolescents receiving follow-up on weight management experience weight stigma related to physical activity?

METHODS

DESIGN AND METHOD

In this study, we had a salutogenic approach where health is conceptualised as a sociocultural process and an individual's health is understood as dependent on the relations between the individual, the context and the process they engage in (Quennerstedt 2019; Antonovsky 1979). A qualitative study design with individual in-depth interviews was chosen as we aimed to gain broader insight into weight stigma in relation to physical activity as experienced among adolescents with overweight or obesity in their social context. To elaborate on these experiences, we included school health nurses' perspectives.

RECRUITMENT AND STUDY PARTICIPANTS

The inclusion criteria for adolescent participants in this study were: 1) between 13 and 18 years of age, 2) categorised as having an ISO-BMI ≥ 25 by their school health nurse at the mandatory measurement in Grade 8, and 3) receiving follow-up in primary health care settings due to their weight. We did not ask for the adolescents' or guardians' permission for us to collect the exact ISO-BMI of the adolescents. This was a decision based on an ethical reflection as we strived to avoid a focus on body weight ahead of interviews. Participants were excluded if they had other diseases that affected physical activity participation. Adolescents were invited to participate either by their school health nurse or the staff at Healthy Life Centre, during fall 2016, and they received oral and written information about the study and their rights as study participants. Eleven adolescents accepted the invitation and were interviewed, but one was subsequently excluded from the dataset because of an ISO-BMI < 25. The adolescent sample consisted of six girls and four boys from four regions and different sized municipalities in Norway, to ensure a diversity of perspectives.

School health nurses had to be experienced with the follow-up of weight development of adolescents, and they had to recruit adolescents for participation. Six female school health nurses (age 43 – 62) from the same regions as the adolescent participants were included during fall 2016. After analysing the interviews, we decided that the sample size was of sufficient informational power (relevance of the information from the sample for the actual study) based on a discussion of the aim of the study, sample specificity, use of established theory, quality of dialogue and analysis strategy (Malterud et al. 2016) to generate new patterns of meaning (Braun et al. 2018; Braun & Clarke 2021).

DATA COLLECTION AND PROCEDURE

The first author conducted the 16 individual in-person interviews included in the analysis, with only the first author and adolescent or school health nurse present. Interviews were conducted between February and June 2017. The semi-structured interview guides were developed by the first and last author, on the basis of an extensive review of the literature in the field, and theory

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arising from this review (Supplementary file 1: Appendix. Interview guide adolescents, and 2: Appendix. Interview guide school health nurses). The interviews were seen as a conversation between the interviewer and interviewee. They were conducted using non-assertive, openended questions to explore issues important to the informants and encourage reflection around these issues. As a former teacher, the interviewer was experienced in conversations with adolescents. The adolescents were assured that information from the interview would not be reported to their school health nurses. This was also the case regarding information from school health nurses' interviews. One pilot interview was conducted with one adolescent and one school health nurse in advance of the interviews, which revealed that small changes were necessary. Because of the challenges in recruiting young people, performing more than one pilot interview with adolescents did not prove possible. Data from the pilot interview with the adolescent were not included in the analysis.

Interviews with adolescents were conducted at locations according to the adolescents' wishes — at home, while walking, at school, or at the local activity centre. The first author participated in group activities with most of the adolescents before the interviews. Interviews with school health nurses were conducted at their offices. Interviews were organised around the themes of experiences, preferences, influences, enablers of and barriers to participating in physical activity in the adolescents' social environment. Interviews included questions related to experiences with physical activity in everyday life but also in the school setting and in physical education (PE), as these are important social arenas for physical activity. The school setting is an area where school health nurses encourage adolescents to engage in physical activity in line with recommendations in their clinical guidelines (Norwegian Directorate of Health 2010). Interviews were audiotaped and transcribed verbatim. Additional hand-written field notes were taken after each interview to maintain contextual details and non-verbal expressions for analysis and interpretation of the data. The quotations used in the text were translated from Norwegian to English, and the names provided are pseudonyms with the participant's age in brackets.

ETHICS

The Norwegian Centre for Research Data was notified of and approved the research project (ref. 50736). All participants and the parents or guardians of the young people received an information letter describing the confidential and voluntary nature of the study. All participants and one parent or guardian of the young person gave consent by signing the information letter.

ANALYSIS

We approached the data from a critical realist perspective, where language is understood as constructing our social realities but also as confined by possibilities and constraints in the material world (Sims-Schouten et al. 2007). Reflexive thematic analysis was chosen because this approach makes it possible to actively engage in interpreting data through the lens of our theoretical assumptions (Braun et al. 2018). This approach enabled us to give voice to a socially marginalised group by analysing the adolescents' and school health nurses' social realities through Goffman's (1968) theoretical concept of stigma (see also Danermark et al. 2019). Data were analysed both at a semantic level as direct communication of participants' accounts and at a deeper, more conceptual latent level (Braun and Clarke 2006; Braun et al. 2018).

The analytic process was guided by Braun and Clarke's (2006; see also Braun et al. 2018) sixphase approach to reflexive thematic analysis. First, we familiarised ourselves with the data and generated initial codes. Then, we searched for themes suitable for describing the narratives of weight stigma. All three authors reviewed, defined and named themes in an iterative process. Detailed analyses of the themes were written up, and suitable quotes were selected. While writing the result section, themes and text were reviewed and revised in a zig-zag process to ensure conformity between the participants' stories and the text. The themes reflect a pattern of shared meaning organised around the core concept of how adolescents and school health nurses narrated weight stigma related to physical activity (Braun et al. 2018). In line with Braun and Clarke (2019), the coding approach was collaborative and reflexive, and the discussions between the researchers aimed at developing a richer, more nuanced reading of the data. We recognize the subjectivity of the data and the analysis produced (Clarke and Braun 2013),

and we acknowledge co-construction of the knowledge produced in the interviews and in the analytic process. Themes in this study are interpretive stories about the data, produced at the intersection of the researchers' theoretical assumptions, our analytic resources and skills, and the data themselves (Braun and Clarke 2018).

In order to ensure credibility, we performed a collaborative analysis with abstraction of data in reflexive dialogues and in several steps, aided by the Nvivo software (release 1.5.1, QSR international). We present an example of the development from meaning units through initial codes to themes in Table 1 to illustrate the analysis process.

MEANING UNIT	CODE	THEME
If I say I exercise as much in a week as I do [] I do not know how much I am up in now [weekly hours of exercise]. But then many people tend to look at me a little strangely and say: 'Okay? It does not look like that', or look at me a little weird.	Defined by weight	(In)visible to others
	Not credited	
But then I started gaining weight, and then she told me she did not want to be with me anymore because I was not so good looking. And I did not even get angry. I understood that, and it motivated me even more to exercise.	Socially excluded due to weight	Being perceived as unacceptable
	Body should be changed	
Afraid that people should think it is funny, or [] afraid of being laughed at and stuff like that. Many are embarrassed in that way. Having physical education becomes just a negative thing. That you skip classes so many times because you are not comfortable enough to participate. Because it is your body.	Weight makes you funny	Dealing with social interaction
	Avoidance	

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Table 1 Example of the development from meaning units, through codes, to themes in the analysis.

RESULTS

When participants talked about actively taking part in physical activity as recommended by their school health nurses, experiences with *visibility* commonly appeared. Experiences of being highly visible and sticking out in the wrong way, or, in contrast, being invisible to others and not given recognition, were common. They talked about themselves as individuals who ought to transform into a slimmer version through exercise and described different ways of managing the stigma related to their large, physically active bodies. One of the most striking features of these accounts was their ordinariness. The feelings of unease and being at fault were narrated as ordinary and everyday occurrences.

In the following, we describe the three main themes generated through analysis of the participants' accounts: (1) being (in)visible to others, (2) being perceived as unacceptable and (3) dealing with social interaction. The first two themes describe experiences with weight stigma related to physical activity, while the third theme describes how participants handled weight stigma.

BEING (IN)VISIBLE TO OTHERS

Being physically active was narrated as being on display and visible in an unwanted and uncomfortable manner. For example, parts of their bodies that would usually be kept hidden would accidentally come into view to others during physical activity. Also, heavy sweating or breathing made them visible in unflattering ways. Nora (17) talked about how she always considered the risk that her shirt would slide up and reveal her stomach when running. She imagined the feeling of degradation if her 'fellow students could see it'. Sofie (13) described feeling uncomfortable in PE classes because she often was 'the only one who gets tired' while everyone else appeared unaffected. Sofie did not describe getting tired as uncomfortable in itself – it was her fellow students observing her being exhausted that bothered her. Melissa (17) said it was 'absolutely awful' to get tired faster than fellow students. She tried to conceal signs of exhaustion but experienced that 'it does not work'.

Unwanted visibility was evident in still more situations, especially in the PE classes at school, such as swimming, or when having to drop out of activities due to physical challenges. Melissa (17) described how she tried her best to participate but that she sometimes had to sit out activities because she could not do them due to her excess weight. Not participating made her visible and vulnerable to others' stereotypical understandings of people with overweight as lazy, and she believed it negatively impacted her grades in PE in a way she felt was discriminating:

So, if you are overweight and try to get top grades in all classes, then you cannot have that in physical education. [...] All my classmates got five, except me. It is a little like [...] She [the teacher] says it is because I do not participate so much. But that's because her format makes it impossible to participate sometimes.

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Several of the participants perceived that other people negatively judged them when physically active (see also Røset et al. 2020). The judgments were confirmed by their physical shortcomings, which seemed to degrade their social value in reference to peers (see also Wiltshire et al. 2017). Furthermore, the lack of recognition for their effort hurt, and sometimes it was accompanied by an unwanted feeling of *invisibility*. Unwanted invisibility was about not being counted in or credited for their efforts when being physically active. For example, Melissa (17) described how her large body overshadowed and negated her efforts and abilities: 'You are constantly trying to make the best of all situations. You are trying to make people see you as something other than overweight. And when you are swimming, they only see obesity'.

Mia (16) described the hurtful feeling of others' judgment of her large body as defining her as a lazy person. She expressed that her physical effort towards a healthy body was made invisible and not credited because, despite her struggle, her large body fulfilled the stigma:

If I say I exercise as much in a week as I do [...] I do not know how much I am up in now [weekly hours of exercise]. But then many people tend to look at me a little strangely and say: 'Okay? It does not look like that', or look at me a little weird.

The experience of other people's judgments and devaluations of large bodies when performing physical activity were common. Nora (17) explained how these judgments did not have to be verbally expressed to be felt: 'For example, if we are thinking of a football exercise session, then it is always the big ones who are put at the back. Either at the goal or in defence'.

Nora interpreted the positioning of 'the big ones' while playing football as an expression of negative expectations (felt stigma). 'The big ones' were expected to be slower and less skilled than their classmates of average weight and were therefore discriminated again, preventing them from having the opportunity to take more offensive positions on the pitch (enacted stigma). Being 'big' was experienced as making possible skills and ambitions invisible to teachers and classmates.

School health nurses also talked about challenges related to visibility. Liz (62), who had worked with adolescents for many years, described the unpleasant feeling of visibility when the adolescents were unable to participate in or meet performance demands in PE:

For someone who is very overweight, it is difficult to participate in physical education. It becomes very visible; they are measured on things, and they must have grades [PE] and they must [...] have different exercises that makes it very visible that they cannot keep up.

Liz also had experiences from talking with adolescents who seemed to be very physically active. Still, when she asked them to describe in more detail, they often told of rather passive positions within the activity: '[these] adolescents are apparently very physically active, but when we dig a little into what they are actually doing, it is [stuff] like being a goalkeeper and sitting on the bench a lot and, yes, not [being] allowed to play'. The adolescents' experiences of being put in more passive positions and not being included were thus echoed in the nurses' accounts.

BEING PERCEIVED AS UNACCEPTABLE

An understanding of a large body as something that ought to be changed into a better version through exercise was typical among the adolescents. 'Better' was perceived as thinner, more muscular and better looking (see also Azzarito 2009). Martin (15) had been working to change his lifestyle for a couple of years after he had become aware that his friends started 'making fun of me' because he was gaining weight. He experienced that 'other people looked at my body' and felt that he deviated from his peers. He had been exercising more and changed his diet but was still not pleased with how his body looked. He referred to his body as 'not very good looking at the moment' and explained that he was 'exercising more'. Simon's (13) comment about a

friend who he thought 'has become a little big' and who thus 'ought to exercise a little' further illustrates how exercise is understood as a tool for achieving weight loss (internalised stigma).

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Participants seemed to experience the normative messages on body weight from their social network, health services and society in general as being about appearance rather than health. Few expressed any health concerns due to being overweight (e.g., fear of developing diabetes), and several described their bodies as healthy. For example, Sara (14) described how she perceived that the reason her school health nurse encouraged her to exercise had 'more to do with weight than health'. She explained that she was in 'very good health' and that health concerns therefore could not be why the nurse wanted her to exercise. Several adolescents shared the understanding that school health nurses focused on increased physical activity for weight loss purposes.

Melissa (17) described how it was 'not completely socially accepted' to have a large body at her age, a description shared by several participants when they talked about experiences with weight stigma. They shared stories of looks, comments and what they believed others thought about them being overweight – often perceived and mediated subtly. Nora (17) described what she perceived to be other people's understanding of being overweight: 'Because it's sad to be overweight. [...] You cannot get a boyfriend, and you do not have friends'. This understanding underlines the notion of the body as something that should be changed to be accepted, attractive and happy. In lower secondary school, Martin's (15) ex-girlfriend made him aware that his large body was socially unacceptable. His solution to achieve social acceptance was to exercise more:

But then I started gaining weight, and then she told me she did not want to be with me anymore because I was not so good looking. And I did not even get angry. I understood that, and it motivated me even more to exercise.

Martin attributed the negative social feedback to his weight and appearance and did not blame her for disliking him (see also Crocker et al. 1993). This type of internalised stigma was also evident in other participants' stories. Lara (16) attributed her weight situation to her lack of self-control:

And then I feel like I'm too fat. [...] Because when you see everyone else my age who has no fat here and there, where I have a lot. Sort of [...] Then I get disappointed in myself. How could I do such a thing to myself?

School health nurses expressed ambivalence and sometimes opposition towards the mandatory measuring of weight and height that they were obliged to perform. Their most significant concern was that the procedures for measuring weight and then following up if weight deviated from 'normal' might contribute to an unhealthy focus on weight and weight loss. This could leave adolescents with feelings of failure:

I think it is a lot, that it is sensitive for them and again that it is important for me that they should understand that I do this not because I think they are wrong, but because it is [...] trying to focus on health, I try to focus on that they should have a good self-image and what they want themselves and [...] but that I should not push them, and if I feel that I push, then I also feel that. (Nicole, 49)

The responsibility attached to following up on adolescents' weight was considered vast and complex. While school health nurses strived to take care of the adolescents in a non-judgmental manner without focusing too much on weight, they acknowledged the prevalence of overweight and obesity in children and adolescents as an increasing public health concern (see also Helseth et al. 2017). The nurses considered overweight as a risk factor for adverse health implications for the individual and a challenge for society at large. Ruth (43) viewed it as 'an important task because it has something to say for the adolescent in the future'.

DEALING WITH SOCIAL INTERACTION

Being physically active with peers of more average weight was narrated as being placed in settings where they constantly had to handle weight stigma. Nora (17) shared how she believed

many students were too embarrassed and afraid to participate in the classes. Participating in PE had become something negative; it took a lot of effort to handle the stigma and dare to participate:

Afraid that people should think it is funny, or [...] afraid of being laughed at and stuff like that. Many are embarrassed in that way. Having physical education becomes just a negative thing. That you skip classes so many times because you are not comfortable enough to participate. Because it is your body.

The participants described different strategies for handling weight stigma. One approach was avoiding stigmatising settings or situations. For example, Sofie (13) said that she made a deal with the PE teacher that she did not have to be with the rest of her class but rather could be part of a smaller group of disabled students. She described it as 'just so uncomfortable to participate and kind of run and like that with the whole class'. As a strategy to avoid actively participating in PE classes, Nora (17) mentioned how she 'often pretended to be ill and brought a note'. She further described that the excuses were just to hide that she was afraid of participating: 'It often has to do with the pain I have now, so she [the teacher] thinks in a way that I just can't stand the pain. But sometimes, it's simply because I do not dare'. Different strategies of avoidance, as narrated through these stories, keep adolescents from fully participating in physical activity.

However, being physically active with other adolescents who were also overweight or with friends was presented as a safe way of being physically active in a non-stigmatising, supportive setting (see also Sundar et al. 2018; Oen et al. 2018). For example, Simon (13) described that being physically active with other adolescents who were 'a bit stocky' made him 'feel a little safer'. Others also shared this experience, such as Nora (17): 'The fact that I run a little slower sometimes is ok because others do it as well'.

Another common strategy was trying to disprove or get rid of the stigma by exercising harder and showing that they did not fit the negative characteristics of people with overweight (see also Wiltshire et al., 2017). Many adolescents blamed themselves and told stories of exercising, no matter the pain, as a means towards a non-stigmatised body. Martin (15) described how he acted upon other people's negative attitudes towards his overweight body by tormenting himself through exercise, believing it would improve his appearance and hence get rid of stigma:

I cried a lot of times because I was not like the others. But [...] I kind of got mad at myself. When I exercised and was in pain, I thought about how I would feel afterward. It gave me motivation, so I just kept going.

He further explained to the interviewer that how he felt afterwards was related to how his body would appear after he had been exercising for a while: 'When I, for example, go for a swim with my family, then I feel good when I do not look so bad'.

Several other participants also described how they worked hard to get an acceptable body size and show that they did not belong in a stigmatised category of people with overweight. Their stories demonstrate how they strived to break with the notion of people with overweight as being lazy and self-inflicted. Involvement in demanding physical activity made the adolescents compromise with themselves: 'I should run to the village and then home again. And I usually do, because if I walk, I have to take a penalty for myself' (Lara, 16).

Strategies to avoid stigma were known among the school health nurses. Nicole (49) described adolescents as hiding ('hides a little behind big clothes') or playing different roles, such as acting 'very outgoing and strong'. Most school health nurses said that they understood that participating in physical activity with people of average weight was complicated and often implied being vulnerable to victimisation and stigma. Some school health nurses questioned the official advice on increased physical activity for adolescents with overweight because of a lack of activity provisions to meet this group's needs. Nicole (49) believed that low-threshold activity groups for adolescents with overweight could be helpful. She had some experience with this and had seen adolescents 'finally' enjoying physical activity together with others. Nevertheless, she was concerned that such arrangements might be stigmatising: 'to put a bunch of big young people in such a group, it is also stigmatising. We also have to be careful'.

DISCUSSION AND CONCLUSION

The main finding of this study is how being an adolescent with overweight is narrated as hard work in relation to physical activity. Handling the stigmatisation of having a large body in a social setting where the body's appearance and abilities become particularly visible is demanding. The adolescents emphasised the effort they invested in hiding or trying to change their overweight bodies in order to be accepted by their peers and society in general. Even though they seemed to have internalised the stigma attached to their bodies and expressed self-blame concerning their weight gain, they challenged the stereotypical understanding of people with overweight as lazy and lacking in self-discipline. They worked hard to prove the stereotype wrong by underlining that they were physically active, concerned about their weight and endured difficult training to achieve an acceptable body size. The school health nurses were well-aware of the adolescents' challenges regarding weight stigma in relation to physical activity, and they were afraid of reinforcing weight stigma through their responsibility to follow up on negative weight development.

The adolescents' stories show how they expected to not be accepted and to be a target for negative judgements when physically active. The fear of being visible in a negative way resembles Wiltshire et al.'s (2017) finding – 'You don't want to stand out as the bigger one' – as a summary of some girls' descriptions of overweight regarding visual appearance in PE. Being physically active entails situations where bodies can come into view and physical shortcomings become evident. Descriptions of a stigmatising and victimising social world in relation to physical activity among adolescents with overweight or obesity have also been found in qualitative research elsewhere (e.g., Chen et al. 2010; Li and Rukavina 2012; Lewis et al. 2014).

Stankov et al. (2012) described visibility in PE as an 'inescapable situation' (p. 9) caused by the mandatory nature of the classes, where adolescents become vulnerable to the attention of insensitive peers. In the present study, this inescapability was not only due to PE lessons being mandatory but also to the stereotypical understandings of overweight people as lazy. Melissa (17) illustrated this point: if she had to sit out of activities in PE classes, the stereotypical understanding fit her. The fear of being visible thus went beyond fearing that the active body is on display – *not* participating also makes one visible in a negative manner and was experienced as reinforcing the stigma.

At other times, the participants felt invisible in the sense that they were not included in physical activities or did not get recognition for their efforts. Invisibility was subtly related to feeling degraded and unimportant during activity. For example, Nora's (17) story about the 'big ones' being put in defensive positions at the football pitch showed how the adolescents perceived that enacted stigma kept them from having ambitions and the opportunity to show their skills. Moreover, experiences like this showed how an actual feeling of discrimination based on body weight might negatively impact physical activity engagement. Stories of invisibility were also related to others downgrading their efforts when, despite their hard work, their weight status remained unchanged. Being overweight signals laziness, while only the fit body represents a healthy lifestyle (Grønning et el. 2012). Being labelled as overweight therefore reinforced the feeling of first and foremost being seen as overweight and only secondarily being seen as possessing additional characteristics (Sobal 2017, p. 13). This, in turn, reinforced the impression of thinness as a premise for social acceptance, and their efforts to exercise and actively participate in physical activity were therefore based on a desire to become thin.

In line with Goffman's (1968) theoretical conceptualisation, people with overweight possess a 'spoiled identity' (p. 31) as their human traits and characteristics are discredited due to stigma. Goffman's work helped broaden the understanding of the embodied and social aspects of stigma that are likely to be involved in adolescents' interactions with peers, teachers and coaches when engaged in physical activity. In the adolescents' stories, a stigmatising link was established between the characteristics of a large body and physically inactive adolescents. According to Goffman (1968), physical characteristics are particularly suitable for stigma production. This can reduce a person to someone who does not live up to social norms and is less valuable than others.

Martin seemed to believe the negative attitudes towards him were legitimate, which shows how he may have internalised the experienced stigma due to his body size (Corrigan et al.

2001; Durso and Latner 2008). This is an example of how people with overweight suffer both externally from discrimination based on negative stereotypes but also internally from negative self-concepts (Sobal 2017, p. 12). Internalised stigma, which includes negative self-evaluation, might add to the burden of experienced stigma for these adolescents (Durso and Latner 2008). The process of internalising the cultural view of people with overweight can lead to shame, low self-esteem and unhealthy behaviours, such as binge eating and decreased physical activity in the long run (Jackson et al. 2014; Pila et al. 2015).

Several of the adolescents' stories in this study showed how they perceived themselves as belonging to a group that deviated from 'normality'. Nevertheless, they shared strategies to handle the weight stigma. This social management was to a great degree about neutralising negative characteristics associated with the stigma, but resistance to the application of a deviant identity or label may also be part of the management (Sobal, 2017). The presented strategies were not mutually exclusive, and adolescents tried several strategies, sometimes at the same time. Martin's story of exercising even harder represents the story of 'proving them wrong' and is an example of resistance to labelling someone as overweight. Puhl and Luedicke (2012) reported that emotional distress in response to weight bullying was more likely to cause avoidance strategies, such as avoidance of physical activity. Their findings suggest that how adolescents respond to weight-based victimisation may have implications for psychosocial outcomes and participation in physical activity. In the present study, avoidance of physical activity settings or physical signs of exhaustion were strategies to neutralise stigma. Hence, different ways of handling weight stigma might contribute to either an unhealthy focus on exercising or decreased physical activity participation.

Results from the present study indicate internalised weight bias through stories of self-blame, as in Lara's (16) story where she expressed disappointment with herself for gaining weight. Internalised weight bias is associated with increased negative emotions in response to weight-based victimisation and coping via avoidance (Himmelstein and Puhl 2019). In line with our results, it may be that shaming and blaming oneself for weight has implications for both emotional responses and coping strategies (Himmelstein and Puhl 2019). Oen et al. (2018) indicated that shame and self-blame may increase hopelessness and be barriers to lifestyle changes.

The recommendations regarding physical activity that guide follow-up (Norwegian Directorate of Health 2010), require adolescents to participate in settings where weight stigma is experienced frequently. It is thus vital to discuss the ethical aspects of the current practice of recommending increased physical activity participation to these adolescents. Adolescents' narrated weight stigma in relation to physical activity was clearly echoed in school health nurses' stories, as they were worried about the adolescents' emotional reactions to followup. School health nurses perceived balancing between recommending physical activity as a health-promoting initiative and not disrupting self-worth among adolescents as a difficult challenge (see also Riiser et al. 2015). This challenge became evident in how both school health nurses and the young informants in this study perceive most physical activity environments as vulnerable arenas for social comparison. The adolescents expressed a need for a social network of similar others to participate in physical activity without fear of being stigmatised. Other studies have also emphasised physical activity in non-stigmatising settings (e.g., Lewis et al. 2014; Oen et al. 2018; Reece et al. 2016). Some school health nurses also reflected on the need for settings that provide safe environments. Still, some thought it might be even more stigmatising to organise groups based on body weight.

Despite the experience of follow-up as a challenge, school health nurses were loyal to their mandate to follow up on negative weight development and the guidelines they worked under. Nevertheless, they expressed that they sometimes had to compromise with themselves. Because they often did what the guidelines recommended and followed the procedures, several had stories where they felt they had gone too far with encouraging lifestyle changes among adolescents and were afraid they had hurt the young people's self-esteem. In line with this, Helseth et al. (2017) found that school health nurses viewed the sensitive nature of being overweight as a challenge for follow-up.

School health nurses in the present study strived to avoid conveying stigmatising attitudes and messages towards adolescents. Recommending a healthy lifestyle with physical activity

may be perceived as targeting the person who is overweight rather than the factors outside the individual's control that might cause overweight – such as societal conditions or individual biological factors. Messages about lifestyle changes may thus increase the stigma already attached to being overweight (Have et al. 2010). A review by Malterud and Ulriksen also (2011) concluded that patients perceive health care providers' attitudes as stigmatising. This was seen in how the adolescents in the present study understood the follow-up by the school health nurses to be about weight rather than health and hence attributed to how the body looks. Despite their good intentions with weight surveillance and follow-up on negative weight development, our findings are in line with those of Ferdinands et al. (2021), who found that surveillance by respected adults communicates to young people that their self-worth is dependent on their body size. In addition, the stories presented by the adolescents in this study show how being labelled as overweight made them compromise with themselves in a desire to be accepted. This means that contact with healthcare professionals to change lifestyle and increase physical activity can contribute to reinforcing the experience of stigma.

Malterud and Ulriksen (2011) further pointed out that healthcare professionals can break the vicious cycle of negative expectations by acknowledging patients' struggles. As stigma is a social process (Malterud and Ulriksen 2010; Goffman 1968), it may be mediated in subtle ways through social interaction where shame and blame are distributed (Malterud and Ulriksen 2011). Still, it is essential to add that stigma is generally unintentionally present in speech, behaviour and attitudes rather than a planned and conscious strategy directed towards people with overweight (Setchell et al. 2017). This is in line with the experiences of the school health nurses in this study, who were aware that they might inflict stigma on the adolescents. Even though school health nurses seemed reflexive, they frequently recommended lifestyle changes, such as increased physical activity, and sought to mediate stigmatising messages towards adolescents. In line with Malterud and Ulriksen (2011), the results of this study suggest that negative expectations and stigma can be weakened by recognising adolescents' stigmatising experiences with physical activity. According to the Norwegian Directorate of Health (2010), interventions and recommendations are low risk if professionally managed. Still, the risk of weight stigma in physical activity is a health risk.

The findings of this study suggest that adolescents experience weight stigma in relation to physical activity as an obstacle to participation and acceptance in these situations. Hence, stigma may be a barrier to good health (Scambler 2009). Weight stigma is a complex experience that entails contradictory motives of both wanting to hide their body to avoid being on display and at the same time working hard to be physically active to disprove the stereotypical view of people with overweight as lazy and lacking self-control. This contradictory relationship highlights a central dilemma in adolescents' management of weight stigma.

In order to include these adolescents in physical activity, it is essential to provide non-stigmatising and safe social environments. Despite school health nurses' struggles to avoid reinforcing stigmas during follow-up, adolescents in this study perceived the goal of the follow-up as being about losing weight rather than improving health. Therefore, there is a need for more research to identify the nature and extent of adolescents' experiences of weight stigma in relation to physical activity and how to combat this stigma. Future research should address weight stigma as a potential psychosocial contributor to further weight gain among adolescents with overweight or obesity.

IMPLICATIONS FOR PRACTICE

This study shows the subtle nature of many stigmatising situations and settings. Adolescents' stories show how weight stigma is highly common in relation to physical activity, which might make this a barrier to participation in physical activity. Our data indicate a need for strategies to deal with the threat of weight stigma while participating in physical activity and during follow-up and recommendations for encouraging physical activity in adolescents with overweight or obesity.

LIMITATIONS

This study did not explore whether the participants also experienced weight stigma in general and in contexts other than physical activity. This study did not account for the extent to which

the participants had internalised weight stigma, how often they experienced weight-based victimisation or weight stigma or how protective factors such as self-esteem may have affected their coping. This study was rather based on direct interpretation of the stories told. That said, all adolescents articulated stories of themselves as individuals who did not live up to the accepted norms, and thus, they probably had internalised stigma. By the age of 10, children become aware of the cultural stereotypes of different societal groups, though being a member of a stigmatised group can make them aware of stereotypes at an even younger age (McKown and Weinstein 2003).

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ADDITIONAL FILES

The additional files for this article can be found as follows:

- Supplementary file 1. Appendix. Interview guide adolescents. DOI: https://doi.org/10.5334/paah.197.s1
- **Supplementary file 2.** Appendix. Interview guide school health nurses. DOI: https://doi.org/10.5334/paah.197.s2

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The authors have no competing interests to declare.

AUTHOR CONTRIBUTIONS

First author, IBS, contributed the study design, conducted the interview, analyzed the data, and led the drafting of the manuscript. Second author, SLD, contributed to data analysis and drafting of the manuscript. Third author, KLH, contributed to the study design, data analysis and drafting of the manuscript. All authors read and approved the final manuscript.

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