

Better Schools by Promoting Musculoskeletal Health

A strategic approach for promoting exercise
and preventing MSDs in schools

Executive Summary

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Executive Summary

Introduction

This report takes a comprehensive look at how schools can contribute to the early, long-term prevention of musculoskeletal disorders (MSDs). It considers the different perspectives of safety and health in work, education and public health and explores options for common courses of action across these three policy areas. By systematically tackling the issue of integrating safety and health in schools, the report helps promote the quality of education and develop a culture of prevention long term.

Occupational safety and health (OSH) can only be achieved if children and young people are already able to learn about healthy behaviour and acquire health competence in their preschool and school educations. If this is successful, they will be capable of skilfully navigating health risks and dangers in their lives and maintaining and improving their own health. Beyond this, early prevention is necessary for the additional reason that the majority of health issues occur, or have their foundations laid, in childhood or adolescent years, not in adulthood. As such, it is essential to fully integrate safety and health into education for the benefit of people in all stages of life.

This report clearly demonstrates that such integration is not only desirable, it is essential, and that schools can make a concrete, long-term contribution to the prevention of MSDs.

Background

Not least because of this, the integration of OSH in education – school education in particular – has been on the agenda of the European Agency for Safety and Health at Work (EU-OSHA) for years. The topic was first introduced by EU-OSHA twenty years ago in the form of a seminar. This was followed a short time later by the first report and the first campaign, which was likewise concerned with education and schooling. Since then, it has become a recurring topic on the EU-OSHA agenda, together with associated measures and plans of action. From 2002, the official framework for these activities was provided by the European Community Strategy on Health and Safety at Work. Today the framework is called the EU Strategic Framework on Health and Safety at Work.

With regard to the topic of MSDs and future generations, the 2020–2022 campaign “Healthy Workplaces Lighten the Load” also deals with the integration of safety and health into the education system. Similarly, prior this report, there have been several OSHWiki articles (Niemi 2020; Taylor 2020a, 2020b; Somhegyi 2021), one discussion paper (Leitner 2020) and one literature review (EU-OSHA 2021) that have been published on the topic.

MSDs: A problem for children and adolescents?

Scientific studies and everyday experience clearly show that the health and well-being of children and young people represent a global priority and are closely intertwined with their school education:

- Next to family, school constitutes the most important point of socialisation for young people. It has a decisive, long-term influence both on the acquisition of health competence and health behaviour, as well as on health opportunities in childhood, adolescence and all later stages of life. It is also a place that is perfectly suited to realising a sustainable strategy of prevention.
- There is a reciprocal relationship between school education and health. On the one hand, school and teaching–learning processes and school culture in particular influence well-being and health as well as the short- and long-term health behaviour of children and young people. On the other hand, the health and well-being of both the students and the teachers have an influence on learning and academic success.
- Health issues are a serious problem for children and young people and teachers alike. Teachers complain about mental and psychosomatic illnesses and impairments in particular, but also about MSDs. The causes of these are not exclusively related to the school environment, though this is often the case. This goes for acute impairments as well as adverse effects and deficits in later stages of life.

The reciprocal relationship between health and education

Health and education are closely linked to one another and are mutually dependent. In this respect, the education side must put more of a focus on health while, for their part, the public health and OSH sectors have to place more importance on prevention in educational institutions. Anyone seeking to improve safety and health at work must start promoting the topic as early as childhood. The childhood and adolescent years not only shape a person's personality and educational opportunities, they also shape that person's safety and health behaviour as well as their health opportunities.

The school system as a suitable setting for the prevention of MSDs

The school system is a suitable setting for the prevention of MSDs. Although concrete work on the topic of health in general and MSDs specifically still leaves a lot to be desired in most European countries, the formal framework for health promotion and prevention in schools is quite well developed almost everywhere. Furthermore, the necessary school-focused concepts are already in place in the form of the "good healthy school" approach and the health-promoting school approach from the Schools for Health in Europe (SHE) network. Both of these are comprehensive pedagogical approaches which are no longer limited to the mere prevention of accidents, injuries and illnesses, the reduction of social disorders and the promotion of safety and health in general. Instead, they tackle safety and health in a more comprehensive way and look at the environment and sustainability as well as ways to improve learning and teaching, leadership and management as well as school culture and school climate. Accordingly, the central fields of action for prevention are identical to those for school development in general.

The importance of physical activity in the prevention of MSDs

When it comes to a preventative health strategy focussed on promoting musculoskeletal health and preventing MSDs, more emphasis needs to be placed on physical activity and exercise regardless of the setting. Current findings indicate that illnesses and disorders of the musculoskeletal system can be prevented and minimised first and foremost through exercise. Exercise can prevent obesity, improve bone density, optimise strength and mobility as well as prevent or reduce anxiety and depression, among other things. These are all factors that have an influence on the development, progression and severity of MSDs. Accordingly, alongside the ergonomic design of a given environment, movement-oriented intervention plays a large role in the prevention of MSDs. In terms of school, exercise has the added benefit that it promotes learning and can improve the academic performance of children and adolescents.

To achieve the positive effects of exercise, activity levels must at least meet the recommendations of the World Health Organisation (WHO) as a minimum. It is also necessary for people to learn how to exercise properly.

Despite all known advantages of physical activity and despite international and national exercise recommendations, there is still a trend towards being less active per day. To counteract this lack of exercise that pervades all groups of the population, there are numerous international and national initiatives to reduce physical inactivity. Educational institutions are assigned a key role in this regard.

How to bring about change in the school system?

Bringing about change in the school system or in any individual school is a challenging endeavour, no matter the topic at hand. The reasons for this are the complexity of the school system and the individuality of every individual school. Additionally, change requires a willingness to change on the part of the schools, and this is not always present to the required extent from the start.

Previous experience has shown that the successful implementation of change measures is largely dependent on whether

- those in charge and other involved parties have an awareness of the project and the changes it is intended to bring about. A willingness to change must be present or established;
- the teachers are capable of implementing the envisaged measures. As teachers often have insufficient expertise in the topics of health and exercise as well as in the implementation of changes, it is usually necessary to provide them with further training and Continuing Professional Development (CPD) accordingly;

- the resources required for the change processes are available in sufficient amounts. The financial backing of prevention measures and, to a lesser extent, the time burden placed on teachers, play a key role;
- education and public health sectors cooperate effectively, ideally also working with communal institutions to this end.

Examples of successful integration in Europe

A look at European countries shows that, despite these challenges in managing change, a more intensive promotion of exercise, play and sport in the school context is very feasible. The selected examples from Finland, Austria, Hungary and Germany illustrate different possibilities in terms of implementation. However, they do not direct their attention specifically at the prevention of MSDs, but rather at strengthening the role of exercise in schools in a more general health-promoting way.

That being the case, this direction should correspond to the school conditions in European countries and reflect the realistic possibilities for prevention and health promotion. The prevention of MSDs and promotion of musculoskeletal health in schools may be an important matter from the OSH and public health perspective. However, a look at the current situation reveals that this is far from the case from the education perspective. What is now standard for the topics of diet, tobacco, illegal drugs, violence and mental health is not (yet) the case for the topic of MSDs. The issue is obviously not seen as serious enough to warrant this kind of attention and is therefore not in the sights of schools or the education sector. As such, it has so far only rarely been a part of preventative and exercise-related initiatives in schools. And the probability that schools will change their perspective on MSDs seems to be on the lower side.

What might be effective would be the strengthening of a more general effort to promote exercise, sport and play in schools. There are three reasons in favour of this:

- Exercise is established in the educational policies, teaching plans and school routines of all countries.
- Exercise can contribute to the improvement of teaching–learning processes and thereby to the improvement of academic results.
- There are numerous international and national initiatives that aim at quantitatively and qualitatively improving the way in which exercise is promoted in schools.

To bring more exercise into schools and thereby promote the quality of schools to ultimately prevent MSDs, the “Moving Schools” concept and its components can be used as a point of orientation and a source of inspiration.

Recommendations for the design and implementation of measures

In a prevention initiative aiming to promote exercise in schools and thereby prevent or at least reduce MSDs in the short, mid and long term, the target group is the school students themselves. However, the required changes to staff and structure would not be possible in schools without the teachers and school head, because they are the ones that are usually needed to implement the required measures. They therefore constitute further important target groups and should be given special consideration in the implementation of measures.

If initiatives are undertaken by the OSH sector to promote exercise, sport and play at school, then the following recommendations should always be taken into account when drawing up and implementing the measures to be taken:

- Speak the language of the school.
- Formulate objectives together with the education sector and the affected parties.
- Work together with educational institutions and other interested organisations, bodies and individuals.
- Include all relevant school levels.
- Place importance on all affected parties being involved from the start.
- Provide sufficient resources and support.
- Teach skills relating to exercise and health.
- Adopt a holistic, integrative perspective on prevention.
- Work with the school development approach.

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