

**EUROPEAN HANDBOOK FOR GENDER
EQUALITY, EQUITY, INCLUSION IN SPORT:
A PERSPECTIVE THROUGH THE ERASMUS
+ WOMEN-UP PROJECT**

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CHAPTER 1: THE SOCIAL, MEDICAL, AND PSYCHOLOGICAL IMPORTANCE OF PERFORMING PHYSICAL ACTIVITY FOR MEN AND WOMEN OF ALL AGES

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1. INTRODUCTION

The social, medical, and psychological importance of engaging in physical activity for men and women of all ages is now demonstrated by best practices, scientific evidence, governmental guidelines, documents, and recommendations certified by the World Health Organization (WHO) worldwide. In this chapter and the following ones, we will try to present some of the most significant and current evidence, which we consider the foundation of the Women Up project. We discuss the state-of-the-art regarding the risks of physical inactivity and the benefits of physical activity, the relationship between physical activity and health equity, and specific aspects related to women, such as pregnancy and menstruation, in relation to performance and participation. We will also explore strategies for promoting physical activity. The WHO Guidelines on Physical Activity and Sedentary Behavior 2020 (Russo, Tursi, Sánchez-Pato & Samantzis, 2020) provides evidence-based public health recommendations for children, adolescents, adults, and older adults regarding the amount of physical activity (frequency, intensity, and duration) required to offer significant health benefits and mitigate health risks. These guidelines also include recommendations on the associations between sedentary behavior and health outcomes, as well as for specific subpopulations, such as pregnant and postpartum women, and people living with chronic conditions or disabilities.

Epidemiological studies have defined the relationships between physical activity and social, medical (American College of Sports Medicine, 1998), and psychological well-being (Blair, 1993; Blair et al., 1995). Sedentary behavior is recognized as "a fundamental public health problem" (European Union, 2014a) owing to its association with a higher risk of overall mortality (European Union, 2014b) and physical disability from concurrent conditions. Unfortunately, physical inactivity is still a widespread issue in EU countries, as represented by Eurobarometer data (UISP, 1984). The data also highlight sex differences, with a clear prevalence of male participation in physical activity and sports compared to females in every European country, age group, and context, except for the 3-10-year-old range. While it is scientifically evident that physical activity and sports are crucial for adopting healthy lifestyles, promoting well-being, reducing inequalities, and preventing diseases at all ages for everyone, it is equally clear that the current cultural model associated with these activities creates unfavorable, if not adverse, conditions for women's participation, compromising women's rights.

The history of women's participation in the modern Olympics serves as an example. In the first edition, held in Athens in 1896, women were absent. Pierre de Coubertin, the "founder" of the modern Olympic Games, stated that "the Olympic Games are not for women." The first Olympic Games open to women was the 1900 Paris Games, with twenty-two female athletes representing only 2% of all competitors. In 1921, Alice Milliat founded the International Women's Sports Federation and organized the first Women's World Games in Paris in 1922, with 77 athletes from different countries and over 15,000 spectators. It was only during the 1936 Olympics that women acquired the role of athletes. In the following years, the number of women gradually increased. In the 2021 Tokyo Olympics, the percentage of female participants reached 48%, while in the Winter Olympics in Beijing, there was a confirmation of change, with a ratio of 45% female to 55% male participants. Currently, there is an official announcement that the 2024 Paris Olympics will achieve full gender parity, with 50% male and 50% female athletes.

However, participation and rights do not progress at the same rate. In 1985, the Italian Sports for All Association (UISP) proposed the first “Charter of Women’s Rights in Sport” to the European Parliament, highlighting gender inequalities in sports and emphasizing the importance of removing cultural, social, and psychological barriers that hinder women’s real involvement. Subsequently, the first World Conference on Women and Sport was held in Brighton in 1994, followed by conferences in Athens (2004) and Berlin (2013) organized by ministers and high-level officials responsible for physical education and sport (MINEPS) of UNESCO. These conferences aimed to promote equal opportunities in the sports sector and were rich in data, study, and research. In the meantime, the European Commission’s 2007 White Paper on Sport confirmed that “Sport is part of the heritage of every man and woman.” (Fagard, 2001). In 2011, a new European Chart of Women’s Rights in Sports (Fox, 1999), also developed by the UISP, demonstrated that the results achieved until that moment were still far from the aspirations of 1985. In 2014, the document “Gender Equality in Sport Proposal for Strategic Actions 2014-2020” (Gender Equality in sSport Group of Experts, 2014) emphasized the need to address gender inequalities in sport, stating, “Although we are witnessing an increasing number of women in Europe participating in sports activities, much remains to be done in the sphere of gender equality. Thus, the importance of sports in daily life cannot be overstated. It contributes significantly to fitness, health, the economy, and self-development by teaching us values and skills, such as discipline, teamwork, respect, and perseverance. It is all the more regrettable, therefore, that the sports world should still be plagued by inequalities between women and men.”.

2. SCIENTIFIC BACKGROUND. RISKS ASSOCIATED WITH PHYSICAL INACTIVITY

Diseases related to sedentary lifestyles are among the top ten causes of death and disability worldwide (Russo, Tursi, Sánchez-Pato & Samantzis, 2020). In Europe, physical inactivity accounts for 6% of deaths and 3.3% of disability-adjusted life years (DALYs) in men, and 6.7% of deaths and 3.2% of DALYs in women. Sedentary behavior doubles the risk of cardiovascular diseases (Sherman, 1999), type 2 diabetes mellitus (Bassuk, 2005), obesity (WHO, 1998), osteoporosis (Pang, 2005), certain forms of cancer (Thune, 2001), and mortality due to cardiovascular diseases and stroke, thereby increasing the risk of hypertension and cancer by 30%. Benefits of physical activity. According to the WHO/OECD document “Step up! Tackling the burden of insufficient physical activity in Europe” 2023 (American College of Sports Medicine, 1998), if the EU population increased physical activity to the recommended minimum levels, over 10,000 premature deaths could be prevented each year, and there would be avoidance of 11.5 million new cases of non-communicable chronic diseases (NCDs) by 2050, including 3.8 million cases of cardiovascular diseases, 3.5 million cases of depression, nearly 1 million cases of type 2 diabetes, and over 400,000 cases of various types of cancer. Achieving the goal of 300 min of physical activity per week would prevent an additional 16 million cases of NCDs. A policy package aimed at increasing physical activity implemented in 36 countries would save around EUR 14 billion in health costs by 2050 and generate a return of EUR 1.7 for every EUR 1.

Furthermore, as suggested by the WHO, regular physical activity combined with a healthy diet has several benefits that contribute to a healthy lifestyle. The benefits of physical activity are related to individuals’ physical, psychological, and social well-being. Physical well-being helps prevent cardiovascular, metabolic, and neoplastic diseases and reduces the risk of heart attacks, hypertension, and stroke. It plays an important role in the prevention of Alzheimer’s disease, a neurodegenerative disease that mainly affects the elderly population. Physical activity helps control body weight, reducing overweight and obesity and their consequences, such as diabetes. It also helps to manage cholesterol levels, contributes to blood glucose control, and reduces blood pressure. The benefits of physical activity extend to muscular and skeletal systems, preventing disorders and discomfort that can affect bones and muscles. It also helps maintain proper posture and reduces musculoskeletal damage caused by a sedentary lifestyle.

Psychological well-being is enhanced by regular physical activity, as it reduces mental distress such as stress, anxiety, and depression. It aids in regulating sleep patterns, increasing concentration during work or study, and improving the overall mood by acting as a natural antidepressant through the release of endorphins. This promotes relaxation, strengthens self-esteem, encourages good habits, and fosters a

positive approach to life. Social well-being is facilitated through physical activity, as it promotes interaction among people, helps individuals feel better about themselves and others, reduces loneliness, and prevents the negative psychological effects caused by isolation. Physical activity and sports help children and adolescents build social relationships, stimulate social interactions, and counteract various psychosomatic disorders that occur during childhood and adolescence. Additionally, physical exercise reinforces important social values by fostering a positive attitude towards life and having positive impacts on peer relationships, as well as relationships with adults.

Despite the health and well-being benefits of physical activity, many people in the European Union do not engage in sufficient physical activity. The prevalence of insufficient physical activity was already high before the COVID-19 pandemic, with more than one in three adults not meeting the WHO physical activity guidelines. Almost half (45%) reported that they had never exercised or played sports. Physical inactivity is also common among adolescents, with less than one in five boys and one in ten girls across 27 EU Member States reporting meeting the WHO recommendation in 2018 (Blair, 1993).

Physical activity and health equity: Women and older adults are less likely to engage in regular sports or exercise. Among 15- to 24-year-olds, 73% of men participate in sports or exercise at least weekly compared to 58% of women. People from lower socioeconomic groups are less likely to exercise regularly, but occupational physical activity is less common in higher socioeconomic groups (Blair et al., 1995).

In this regard, data, graphs, and studies provided by the Eurobarometer are highly useful. To conclude, a brief historical note on the relationship between physical activity and health. This connection seems to have reached its peak in Greece in the last 500 years of BC. The most well-known among the pioneers of this relationship, including Hippocrates, Erodius, and Galen, was Hippocrates, considered the father of preventive medicine. He advocated, "If we could give every individual the right amount of nourishment and exercise, we would have found the way to health." Initially, this statement was supported only by empirical evidence, and has remained so until almost recently. The field of "exercise science in medicine," as it could be defined today, dates back only to the past 50 years, during which scientific evidence has demonstrated how physical activity and exercise are true medicines for the entire population and for many types of diseases.

3. TECHNICAL INFORMATION

In the previous chapter, we examined the benefits of physical activity (A.F.) and the disastrous effects of sedentary behavior on health. As a result, the WHO recommendations (Russo, Tursi, Sánchez-Pato & Samantzis, 2020; American College of Sports Medicine, 1998; Blair, 1993) for promoting health in men and women in Europe all push towards policies capable of generating a significant increase in physical activity, with a focus on women, older people, and people from lower socio-economic groups. There are three basic principles: 1) some physical activity is better than none, 2) increasing the amount of physical activity leads to additional health benefits, and 3) any type of movement count.

We have already seen that all-cause mortality is reduced by 30% in active men and women compared to inactive individuals, and this relationship holds true for individuals over 65 years of age and is similar across different ethnicities (Blair et al., 1995). In the previous chapter, we also analyzed studies and research that, particularly since the 1990s, have provided scientific evidence for many specific situations. For example, regular walking, cycling, or engaging in 4 hours of recreational activity per week reduces the risk of coronary heart disease as well as morbidity and mortality from coronary damage, stroke, dyslipidemia, and blood pressure (UISP, 1984). The latter decreases by 10–20 mmHg and is sustained for 3 h or more, depending on the training, with just 30-45 minutes of moderate physical exercise.

Regarding metabolism, obesity, known as the "epidemic of our century," is largely caused by a decrease in physical activity, while active and healthy lifestyles have benefits in its prevention and control (Fagard, 2001; Fox, 1999). Physical activity also has a strong protective function against type 2 diabetes in individuals with obesity. It improves lipid profile, body composition, insulin sensitivity, and quality of life.

For the musculoskeletal system, physical activity not only helps maintain a good condition, as desired by Hippocrates, but also promotes a reduction in fractures, particularly those of the hip and spine, and

reduces the risk of developing severe or moderate functional limitations in older men and women by approximately 30%. Physical activity is the most practical, cost-effective, and efficient means of combating osteoporosis (Gender Equality in sSport Group of Experts, 2014).

In terms of neuropsychological aspects, physical activity has a strong protective effect on the neural tissues. It improves cognitive activities, has an anti-aging effect, and enhances neurological and motor deficits caused by neurodegenerative diseases, such as Parkinson's disease, Alzheimer's disease, and Multiple Sclerosis. Its action on mood regulation is highly significant; it stimulates the release of endorphins, provides a natural sense of well-being, reduces cortisol levels in the blood (a hormone involved in anxiety and stress), and provides a feeling of satisfaction that boosts self-esteem. Physical activity also increases serotonin levels, another substance that can improve mood (Hakim et al., 1999).

There is a positive association between cancer and breast and colon cancer, and there is increasing evidence of a protective association between cancer and lung and endometrial cancers. In Chapter 2, we also consider disasters related to sedentary behavior. One of the best summaries can be found in an article by Tremblay et al. (Kannus, 1999). Starting from considerations related to sedentary physiology, the authors outline what is known about the changes that sedentary behavior can cause in certain physiological parameters. Specifically, cardiometabolic indicators indicate an increase in blood triglycerides, a decrease in high-density lipoprotein (HDL) cholesterol, and a decrease in insulin sensitivity. Regarding glucose metabolism, even minimal increases in muscle contractile activity can substantially increase the content of glucose transporters (GLUT) in the muscle, particularly the GLUT-4 form, and thus improve sugar tolerance. Another effect is a decrease in bone mineral density, while the links between sedentary behavior, psychological disorders, and social maladjustment are increasingly evident in both children and adults.

The percentage of sedentary individuals increases with age among women and among those with lower education levels and/or low to medium incomes. In particular, for women, there are strong indications of how cultural models and gender stereotypes influence their low levels of physical activity and sedentary behavior. Two examples worth mentioning are: 1) The menstrual cycle, which is still considered a reason for suspending activity despite scientific evidence confirming that it can be a moment for further personalization of training and bring significant advantages to female athletes. The reference principle, even for high-performance athletes, is to train in harmony with their hormone levels, maximizing the utilization of the different phases of the cycle when the athlete has the maximum energy available or when they require necessary recovery. The second example concerns the approach to motherhood. The stereotype of physical inactivity and/or rest as a means of protecting women and their unborn children during pregnancy is difficult to eradicate, despite clear evidence that a healthy and active lifestyle during pregnancy brings significant benefits. A pregnant woman who leads an active lifestyle keeps her metabolism "awake," protects her cardiovascular system, improves mood, and will likely maintain these healthy habits in the future, passing them on to her child (Ortega et al., 2008; Owen et al., 2010). This highlights how gender stereotypes act as significant deterrents for greater female participation in sports activities.

In conclusion, it is important to emphasize that while physical activity is generally beneficial, it should be performed safely, taking into account the limitations related to certain pathologies and/or personal conditions. The Guidelines also state that despite the large amount of data linking physical activity (and increasingly sedentary behavior) to health outcomes across the lifespan, discussions among the Guideline Development Group (GDG) have revealed important evidence gaps that should be prioritized to inform future guidelines.

4. PEDAGOGICAL ORIENTATION

Therefore, there is a European strategy aimed at ensuring that all citizens can live better and longer thanks to a lifestyle that includes regular physical activity and a pedagogical approach that considers all stages of life and reduces all the disparities mentioned in the previous chapters. This is because the current level of "Information and communication on the topic of active lifestyles for a longer and healthier life" is present and of good quality in practically all European countries, but this has not changed the habits of too many

Europeans. Approaches aimed at changing individual behavior yield limited results if not integrated into a context of change in the physical and social environment. If we are convinced of the use of bicycles as a means of daily transportation and a tool for promoting health but there is no network of bicycle lanes to do so safely, it becomes evident that they will not be used. The examples could go on, and Pisa, the walking city, brings many of them along with its activity for over ten years (Russo, Tursi, Sánchez-Pato & Samantzis, 2020). To create favorable conditions for engaging in physical activity, complex interventions are needed, as are interdisciplinary projects involving diverse stakeholders and actions that ensure equal opportunities regardless of gender, age, income and education levels, ethnic background, or disability by removing and facilitating barriers to physical activity. Therefore, significant training intervention is necessary, requiring a multidisciplinary and multisectoral approach. Primarily in the healthcare sector, which must take on this additional commitment with the need for full sharing of principles, objectives, and methods with decision-makers and stakeholders from other sectors, such as education, sports, culture, economy, transportation, and urban planning, following the principles of "Health in All Policies" and throughout the lifespan (American College of Sports Medicine, 1998). In this way, we will have a system of trainers for health promotion consisting of institutional stakeholders (schools, universities, public administrations, etc.), social private entities (associations, sports clubs, etc.), and professionals operating in the field to share, design, implement, document, monitor, and communicate the importance of physical activity in all its forms. It is a matter of building a training system capable of placing the individual at the center and intervening globally in them and their habits. Training programs should be consistent with the reference settings (healthcare, education, work, community, sports, etc.) and with the target audience. In particular, the training intervention should adopt "engaging" methodologies that promote active participation of the target audience, stimulating it with appropriate active learning and feedback techniques, such as exercises, simulations, group work, and "discussion" ("active method"). The strengths of training plans for promoting physical activity will be multisectoral and multidisciplinary approaches, as well as the outcomes of these training plans (Blair, 1993). Trainers should prioritize interactive methodologies to convey appropriate messages based on the objectives, content, and specific characteristics of the target audience. Lessons should always be integrated with feedback and active learning moments and techniques, such as group discussions on topics and cases, small group work, simulations, and role-playing. Strategic, practical, and supportive materials should be produced by and for trainers to be used as tools to facilitate the development of projects and documents aimed at offering sustainable opportunities to adopt an active lifestyle for everyone as well as raising awareness among operators in all sectors (healthcare, transportation, environment, sports and leisure, education and training, urban planning, public administration, civil society, and the private sector). The issue of gender differences should be included in every training program, as it is cross-cutting in every setting and project. Evidence-based techniques must be used. The promotion of movement should be based on techniques that have demonstrated effectiveness through specific evaluation studies. Examples include active breaks (short movement breaks lasting 1-2, 5, or 10 min, carried out in the classroom and/or at work and adaptable to the physical abilities of everyone), playground markings (indoor or adjacent play areas divided into zones and marked with specific activities for groups of varying sizes of students, which can be used during recess, lunch break, and extracurricular time), and "Pedibus" (an organized group of young people who walk to school and sports facilities accompanied by volunteer adults to educate children and parents about ecological and healthy culture, promote physical activity, and reduce environmental pollution). Physical activity should be broadly understood to include exercise, active forms of entertainment, play, walking, active breaks, active transportation, learning while moving, and sports. To promote physical activity, as we have mentioned, we need to develop individual skills, improve the social environment, improve the structural and organizational environment of the community, and strengthen collaboration among different systems within the same community. In schools at all levels, we need to consider the motor area as a fundamental didactic tool to facilitate cognitive development, inclusiveness, improvement of memory and concentration, cooperative learning, assertiveness and empathy, problem-solving and decision-making, self-awareness and self-esteem, and better management of anxiety and anger. This intervention should particularly focus on children and adolescents, adults, their daily lives, the elderly,

and women, as described so far. In addition, we must continue with equally serious work on the monitoring, control, and continuous development of appropriate platforms, evaluation, and research.

5. CONCLUSIONS

We have seen how physical activity (PA), as recommended by the WHO, is important and beneficial for men and women of all ages. However, PA participation is influenced by a complex set of social, economic, and cultural factors. Among the strongest social influences is sedentary lifestyle, resulting from the changing work and lifestyle patterns of large segments of the population. Other significant social factors include educational level, economic factors, and income. Gender differences have emerged as cultural factors linked to the predominantly male model of sports that has prevailed. The condition of the urban environment can positively or negatively influence the practice of PA, and urban planning can promote the adoption of healthy behaviors through investment in active transportation and the design of areas that encourage physical activity or deny them by converting a square into a parking lot. There are many undeniable benefits to leading a physically active life, including being an effective tool for preventing and treating many diseases. Engaging in PA is one of the keys to self-care and a way to immediately improve the quality of one's life. In 2010, WHO defined the recommended levels of physical activity for the three age groups. These recommended levels should be understood as the minimum threshold; those who exceed them obtain additional health benefits; however, too many people are unable to reach them. In particular, certain population subgroups are greatly disadvantaged by this lack of access: the young and elderly, people with disabilities, families facing severe socioeconomic difficulties, migrants, ethnic minorities, and women. This highlights the need for policies that include multisectoral actions aimed primarily at population subgroups that have lower participation in PA, especially women, who constitute the majority within these subgroups and are affected by the broader issue of gender discrimination in our social models. PA is a right for both men and women, and Italy is on the verge of introducing into Article 33 of its constitution that "The Republic recognizes the educational, social, and health-promoting value of sports activities in all their forms." From the previous chapters, it is clear that achieving equitable universal access to PA throughout one's lifespan requires decisive cultural and educational innovation. Women Up is an important part of this cultural and innovative transformation, with a project that ambitiously uses education within sports activities to contribute to the broader fight for true and conscious gender equality, starting with PA in all aspects of life.

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7. ASSESSMENT QUESTIONS

1. According to the World Health Organization (WHO) guidelines, physical activity is important for:

- a) Men only
- b) Women only
- c) Men and women of all ages**
- d) Elderly individuals only

2. Sedentary behavior is associated with a higher risk of:

- a) Diabetes and obesity
- b) Cardiovascular diseases and stroke
- c) Osteoporosis and certain forms of cancer
- d) All of the above**

3. Which of the following is NOT a benefit of regular physical activity?

- a) Improved mental well-being and reduced stress
- b) Prevention of Alzheimer’s disease
- c) Increased risk of cardiovascular diseases**
- d) Strengthening of the muscular and skeletal systems

4. Gender differences in physical activity participation are evident in:

- a) Children and adolescents
- b) Elderly individuals
- c) People with lower education levels
- d) All of the above**

5. The European strategy for promoting physical activity aims to:

- a) Change individual behavior through education
- b) Improve the social and physical environment
- c) Focus on specific population subgroups, including women
- d) All of the above**