AHOS PROJECT

Active and Healthy Olympic and Paralympic Seniors

A MANUAL
FOR REGULAR PHYSICAL ACTIVITY
FOR FORMER ELITE ATHLETES

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INTRODUCTION

Maintaining adequate physical activity at least at the recommended level (at least 150 minutes a week of moderate-intensity or 75 minutes a week of vigorous intensity physical activity) is not something that elite athletes can be expected to do easily after the end of their competitive sports careers. Continuing regular physical activity after retirement from sport can be a real challenge for many elite athletes. For a long time, physical activity was part of their daily routine, but this is easily interrupted when they retire. They had access to sports facilities and equipment, a training team, and a professional staff, but with the end of their competitive career, all that is gone.

The transition process after retirement from elite sport is well supported but limited to education and integration into professional life. However, activities that support the transition from high intensity training to lower intensity physical activity or encourage regular sports activity in post-sport life are very rare.

It is very important that elite athletes maintain an adequate level of regular physical activity, as they have been extremely physically active for much of their lives and could be even more adversely affected by a transition to inactivity.

> Andrea Massi, famous alpine-ski coach, warned that Tina Maze will need a physical program after the end of her sports career: "If you leave a person, you used to push hard 5 hours per day before, laying on a couch, he/she will get sick. Both physically and mentally." (Slovenske novice, 2015).

To support the maintenance of personal well-being of former elite athletes and an effective transition to a new post-sport career, activities to continue physical activity should be included in the adaptation to retirement from sport.

There is a lack of empirical research focusing on the factors influencing former elite athletes' engagement in regular physical activity after sport retirement, especially at older ages. Therefore, the study, which is part of the Active and Healthy Senior Olympians and Paralympians project, is a small contribution to a better understanding of the situation and a starting point to make recommendations for increasing the involvement of elite athletes in regular physical activity after their careers have ended.

One Part of the Manual is a Model to encourage former elite athletes to engage in regular physical activity, which can serve as a tool that individuals and sports organisations can use to help encourage former athletes to stay in sport in new roles after their elite sports career is over and to continue to maintain regular physical activity as a cornerstone of good health and an integral part of a healthy lifestyle.

The Manual, Model and recommendations presented here are based on the research results of the Active and Healthy Olympic and Paralympic Seniors (AHOS) project. The study involved elite athletes after their competitive career, mostly aged over 50 years, from Slovenia, North Macedonia, and Poland.

DESCRIPTION OF THE PROJECT "ACTIVE AND HEALTHY OLYMPIAN AND PARALYMPIAN – SENIORS - AHOS"

The material presented here is based on research results obtained within the Active and Healthy Senior Olympians (AHOS) project. In this handbook, we present the issues of sport participation in old age, as it relates to the sport elite, to participants who have taken part in competitions at the highest levels, from national, European and Olympic Games. The AHOS project involved elite athletes, mostly over 50 years of age, from Slovenia, North Macedonia and Poland.

The project follows European policies in the field of sport, the EU Work Plan on Sport and addresses physical activity of EU citizens, especially elder people, under Theme 3 - the key theme Sport and Society.

The AHOS project aims to improve physical activity opportunities for elder people, people with disabilities and a specific group of former elite athletes who were very physically active during their competitive careers but are less active after their competitive careers have ended, especially in late adulthood and beyond (65+).

In the AHOS project we developed a model for engaging former elite athletes in regular physical activity and presented the results of the exercise programme for a group of elder people.

The objectives of the AHOS project are:

- To understand how factors related to the process of retirement from sport have influenced changes in physical activity in former elite athletes,
- To contribute to successful post-retirement transitions of elite athletes with research findings and develop proposals for integrated systematic support for athletes,
- To determine the physical activity levels of former elite athletes and the support they receive in their transition after retirement from sport in all partner countries,
- To identify whether there is a link between participation in physical activity and life satisfaction, self-esteem, self-rated health, health-related habits and quality of life,
- To develop an exercise model and present exercise recommendations for elder people.

The main target group are former elite-athletes.

Maintaining physical activity, at least at the suggested healthy level, is not something that can simply be expected after the end of an individual's sports career. Continuing regular physical activity after retirement from competitive sport can be challenging. There are various reasons for a reduction in physical activity, such as injuries and poorer musculoskeletal health, being overloaded with other activities such as study, work, starting a family, physical activity suddenly no longer being structured into a daily routine, etc.

The transition process after the end of a career in elite sport is already well supported in terms of integration into education and work, but there are not enough activities developed to support former elite athletes to continue with the necessary physical activity.

Various studies have shown the benefits of physical activities for elite athletes throughout their active sports career: longer life expectancy (higher than in a comparative reference group (Sarna

et al., 2000)), lower rates of hospitalisation later in life for heart disease, respiratory disease and cancer compared to a reference group (Kujala et al, 1996), better self-perceptions of their own health and better health-maintenance habits, as they are less likely to smoke, are more physically active and have better mood compared to their peers (Kontro et al., 2017).

To support the maintenance of health and well-being of elite athletes and an effective transition to a new 'post-sport' pathway, it is essential to include activities to continue physical activity at least at the level recommended for the general population in the care and support of a successful adaptation to retirement from sport. As there is evidence of the beneficial effects of physical activity, the project has focused on former athletes and has developed proposals for their involvement in physical activities.

It is important to stress that former elite athletes can be role models. Thus, the project appeals to them as a target group to be active and participate in various physical activities, while on the other hand the target group can be used to promote physical activity for elderly, as elite athletes can be role models (Athletes as Role Models at EU Level in the Framework of the European Week of Sport).

It is very important that we follow elite athletes beyond their sports career and into their old age to find the forms and types of sporting activity that they are willing to continue to maintain their wellbeing, health, and quality of life.

Research suggests that physical activity may play a protective role against depression among former elite athletes as they age (Bäckmand, Kaprio, Kujala & Sarna, 2003).

Former athletes can also be role models for other elder people.

BENEFITS OF PHYSICAL ACTIVITY AND RECOMMENDATIONS FROM THE WORLD, EUROPEAN UNION AND HEPA

The basic concepts related to physical activity or exercise include (Mišigoj-Duraković et al., 2003): physical activity, sports education, sports recreation and sports training.

Physical activity refers to muscular work that increases energy expenditure compared to that at rest. It consists of an individual's daily physical activity at work, which enables a job to be performed (including the way to work and back, commuting), leisure-time activities (household chores, gardening, recreation) and activities related to personal care, supply of an individual including purchase of food in the store, dressing and personal hygiene.

Regular, systematic exercise involves physical activity that is goal-oriented and follows a planned programme that specifies the type of activity, the number of units of exercise and their duration and intensity.

Physical education is a compulsory subject in primary and secondary schools, as well as in most colleges and universities. In the context of sports education, participants take part in an organised and systematic learning and education of physical, functional and motor skills and a healthy lifestyle.

Recreational sport is a leisure-time activity designed to develop and maintain the mental, functional skills and physical skills of the body.

Sports training is systematic, planned exercise with the aim of maximising the development of athletic ability and achieving the best possible performance in competition. In addition to physical training, it includes technical, tactical, and mental preparation for competition.

The EU Physical Activity Guidelines (2008) state that physical activity is defined as "any bodily movement associated with muscular contraction that increases energy expenditure above resting levels". This general definition covers all forms of physical activity, including leisure-time physical activity, occupational physical activity, physical activity in or around the home, and travel-related physical activity (e.g., to work, on errands). In addition to personal factors, environmental factors (physical, social, and economic) also influence physical activity levels.

In Europe and in Slovenia, the term "sport for all" is increasingly used to refer to sport recreation, which is an important component of the quality of life of individuals and more than half of the population of Slovenia (Berčič, 2005).

Physical activity, health and quality of life are closely linked. The human body is designed to move and needs regular physical activity to function optimally and stay healthy (EU Guidelines, 2008).

Physical activity is very important also for people with physical disabilities. The first record of the importance of exercise for individuals with disabilities dates back to the 16th century. Mendez (c. 1553, according to Mišigoj-Duraković et al., 2003), in his book on exercise, he stressed that physical activity is the easiest and most effective way to stay healthy and recommended exercise for the elderly and people with disabilities.

Technological developments have led to less physical activity among people living in the developed world. The lack of exercise and the huge decline in the frequency and intensity of physical activity in recent decades has reflected in all stages of life, with negative impacts on individuals and society. Due to the reduction of physical workload in modern occupations, the productivity of employees decreases significantly over the years if they do not engage in physical activities in their leisure time (Mišigoj-Duraković et al., 2003).

The positive effects of regular physical activity throughout the lifespan are well known. Researchers have found that regular physical activity reduces the risk of premature mortality and the risk of cardiovascular disease, hypertension, colon cancer, obesity and diabetes mellitus, arthritis (Penedo & Dahn, 2005). A number of benefits have been shown in the psychological domain, in particular improvement in cognitive function and reduction of symptoms of depression and anxiety (Callaghan, 2004; Penedo & Dahn, 2005).

Physical activity is extremely important and contributes to reducing the risk of cardiovascular disease, certain cancers and diabetes, improving musculoskeletal health and weight control, as well as having a positive impact on mental health and cognitive processes.
Physical activity has a beneficial effect on reducing cardiovascular mortality, alleviating hypertension and type 2 diabetes, positively affecting mental health (reducing symptoms of anxiety and depression), cognitive health and sleep, preventing falls and improving functional motor function (Council of the EU Recommendations, 2013).

Insufficient physical activity is identified as a major health risk (6% of deaths worldwide) (WHO, 2010). Sedentary lifestyles have been shown to be a risk factor for the development of a number of chronic diseases, including cardiovascular diseases, which are the leading cause of death in the Western world (EU Guidelines, 2008). Data show that 40% to 60% of the EU population has a sedentary lifestyle (up to 70% in some countries in the world) and that individuals do not reach the recommended 30 minutes of moderate activity, so it is important to design programmes and activities that promote physical activity and help change unhealthy lifestyle habits and raise awareness of the health benefits of physical activity. The World Health Organization (WHO) has set a target of a 15% reduction in physical inactivity in adolescents and adults by 2030 (World Health Organization - WHO, 2018).

There are many benefits of an active life, both social and psychological. There is also a direct link between physical activity and life expectancy; physically active population tends to live longer than the inactive one (EU Guidelines, 2008).

People who sit a lot and become physically active say they feel better physically and mentally and have a better quality of life. The human body undergoes morphological and functional changes because of regular physical activity, which can prevent or delay the onset of certain diseases and increase physical performance (EU Guidelines, 2008).

The world's population is ageing. Population ageing in the European Union is expected to continue intensively, with the number of people aged 65 and over projected to rise to 30% and 12.1% of those aged 80 and over by 2060 (Vertot, 2008).

Physical activity in elder people also has positive effects on cardiovascular, musculoskeletal and psychosocial components of health (Oražem Grm, 2008). Regular training (Strojnik, 2009)

improves bone density, which in turn reduces the risk of osteoporosis. There is evidence that moderate physical activity in old age reduces the risk of cardiovascular disease, prevents increases in C-reactive protein and thus atherosclerosis (Sasaki, 2011), and prevents thrombosis by reducing blood clotting and platelet activity and activating the fibrinolysis system (Wang, 2006). In addition, physical activity reduces the concentration of negative LDL-cholesterol and increases the concentration of beneficial HDL-cholesterol (Hardman, 1999). Physical activity in the elderly also protects them from type 2 diabetes by increasing insulin sensitivity and preventing glucose intolerance, which improves glucose metabolism and reduces total body fat (Ryan, 2000).

Regular exercise (Mišigoj-Duraković et al., 2003) is important for maintaining and improving health, preventing the development of non-communicable diseases in adults and elderly, treating and rehabilitating a wide range of acute and chronic diseases, maintaining the ability to live independently in old age, and increasing functional capacity or fitness. Regular exercise is also extremely important for mental health (Mlinar, 2007); in old age, regular exercise can even prevent some mental illnesses such as depression, dementia, and Alzheimer's disease, and improve mental state and well-being (Fox et al., 2007). It is an effective way to overcome stress as it brings fun and relaxation (Tušak, 2002).

Participation in a regular physical activity programme in old age also contributes to a longer life expectancy, improved functional capacity and better wellbeing (Chodzko-Zajko et al., 2009). Regular physical activity has many benefits (EU Guidelines, 2008; Council of the European Union Recommendations, 2013; World Health Organisation (WHO, 2020), 2018 and others) for:

- **The cardiovascular system** (lower risk of cardiovascular disease; prevention and/or delayed onset of arterial hypertension and better control of arterial blood pressure in individuals with high blood pressure; good heart and lung function),
- **The metabolism** (preservation of metabolic functions and low incidence of type 2 diabetes; increased fat consumption, which can help weight management and reduce the risk of obesity, better digestion, and gut rhythm regulation),
- **The reduced risk of** certain cancers (breast, prostate, and colon cancer),
- **The locomotor system** (increased muscle strength and bone strength, better mobility, and endurance: increased bone mineralisation in youth, which helps prevent osteoporosis and fractures in old age; preservation and increase of muscle strength and endurance, resulting in improved ability to perform daily activities; preserved physical functions, including strength and balance; reduced risk of falling in the very elderly, slowing down the processes of atrophy),
- **The mental processes**, states and personality traits and promoting psychological health (mental functioning and preserved cognitive function - increased brain activity, clearer mind and lower risk of depression and dementia; lower stress levels and associated better sleep quality; improved self-image and self-confidence, greater self-esteem and respect for others, better cooperation, enthusiasm, and optimism,
- **The preventing or delaying the onset of chronic** diseases associated with ageing, including dementia, and controlling chronic diseases,
- **Improving quality of life** (contributing to independent living, increased vital energy, better integration into the community, socialisation, maintaining ability for daily activities).

Regular physical activity has the following rules: some is good, more is better; it's never too late to get physically active, every minute counts.

Physical activity is good for your health, improves sleep, helps you maintain a healthy weight, manages stress, and improves your quality of life and reduces the risk of diabetes (-40%), cardiovascular disease (-35%), falls and depression (-30%), joint and back pain (-25%) and bowel and breast cancer (-20%).

(UK Chef Medical Offices Physical Activity Guidelines, 2009)

Physical activity, as proposed by the World Health Organisation (WHO), is important for all age groups, but especially for children, working population, and elder people. Physical activity is a prerequisite for healthy lifestyles and a healthy workforce and therefore contributes to achieving the main objectives of the Europe 2020 Strategy, in particular growth, productivity, and health (EU Council Recommendations, 2013).

Increasing physical activity, such as walking, cycling, active recreation, sport, and play, is a guideline under the Sustainable Development Goals to improve the health of the human population at all ages. All forms of physical activity can provide health benefits if undertaken regularly and for an appropriate duration and intensity (EU Guidelines, 2008).

According to WHO recommendations (WHO, 2020), physical activity in older people can be undertaken as part of recreation and leisure (play, sport or planned exercise), outdoor exercise (cycling, walking and cycling), work or household chores, in the context of daily occupational, educational, home or community settings.

Elder people should engage in physical activity in the form of moderate-intensity aerobic exercise for at least 150 to 300 minutes, or vigorous-intensity aerobic activity for 75 to 150 minutes, or an equivalent combination of moderate to vigorous activity throughout the week, which means at least 30 minutes of moderate physical activity per day, preferably on all days of the week.

Muscle-strengthening activities involving all major muscle groups are recommended at least two to several times a week, which will further contribute to better health. Physical activity should be varied, emphasising functional balance and strength training at moderate or higher intensity three or more times a week.

Physical activity that includes combinations of balance, strength, endurance, walking and physical functional training is recommended to prevent falls and injuries from falls (WHO, 2020).

Recommended for elder people:

- **At least 150 minutes of moderate** physical activity **per week (breathing** fast, able to talk, e.g., swimming, brisk walking, cycling) or **75 minutes of vigorous physical activity (**breathing fast, difficult to talk; e.g. running, stair walking, playing sports),
- reducing and **interrupting periods of inactivity** (sitting, lying down),
- **at least 2 times a week for strength-building exercises (**weight training, yoga, weight-bearing) and **balance-improving exercises** (e.g., dancing, bowling).

(UK Chef Medical Offices Physical Activity Guidelines, 2009)

EU Guidelines (2008) point out that there is a growing body of evidence showing the importance of physical activity for elder adults. Although health status during ageing is largely

attributable to lifestyle outcomes in adult life and even youth, the level of physical activity in elder adults is an important determinant of their physical fitness and continued ability to live independently. The positive effects of sustained physical activity are psychological (life satisfaction) and physical, physiological, and social health.

> Services for the elderly (EU Guidelines, 2008, p. 31):
> - Guideline 35 - "...increase research on the link between physical activity and the psychological and physiological health of older citizens and on ways to raise awareness of the importance of physical activity."
> - Guideline 36 - "...to provide facilities that make physical activity more accessible and attractive to elder people, ... investing in such facilities saves on medical care".
> - Guideline 37 - "...pay particular attention to ensuring that an appropriate amount of exercise is maintained, consistent with health" in care homes.

Participation in a regular exercise programme has been shown to be an effective tool to reduce or prevent many age-related functional impairments, even among people in their 80s and 90s. There is growing evidence that physical activity can preserve cognitive function and prevent the onset of depression and dementia (the two mental illnesses most common among elder people) (EU Guidelines, 2008).

Physical activity, including specific exercises for muscles (strength and balance), plays an important role in improving the quality of life of elder people. Although studies have shown that regular physical activity and/or exercise in old age does not significantly increase life expectancy, improved physiological and psychological wellbeing can help maintain personal independence and reduce the need for acute and chronic care services. This can have significant economic benefits, as cost savings are likely to more than offset the costs of well-designed exercise programmes (EU Guidelines, 2008).

Whether the positive effects of regular physical activity (on oxygen and nutrient transport, and on regulatory mechanisms in the nervous system) will be manifested depends on the appropriate choice of the type, frequency, and intensity of physical activity according to the individual's age and state of health (Mišigoj-Duraković et al., 2003; Turk, 2002).

It is important to personalise exercise programmes for elder people to suit the level of fitness that can be achieved and to take into account their specific needs. Particular attention should be paid to the role of physical activity in the development of impairments, functional disability, and cognitive decline due to age (EU Guidelines, 2008).

Cultural, psychological and health factors often inhibit physical activity and exercise in old age. Thus, special attention is needed to ensure and support elder people's motivation to engage in physical activity, especially if they are not used to it. Research is needed to explore ways of changing attitudes towards physical activity in the non-elderly generation. In addition, there is a need to raise awareness among elder people and in society of the benefits of a good lifestyle and of the various physical activities. Social and economic status and living conditions at home or in a care home are important factors in maintaining physical activity (EU Guidelines, 2008).

Good practice examples in promoting physical activity among elder people; "European Network for Action on Ageing and Physical Activity EUNAAPA, funded by the European Commission (EU Guidelines, 2008)

The German Olympic Sports Federation runs the "Really fit after 50" programme, which focuses on attracting elder people to specially designed exercise classes.	In Finland, the national health-enhancing exercise programme for the elderly "Strength in Ageing" promotes independence and quality of life for elder people with reduced capacity who live independently. They focus on leg-strengthening exercises and balance exercises, especially for the over-75s, in the form of group exercise classes.	Government organisations in the Netherlands have successfully linked the theme of physical activity to initiatives originally aimed at promoting elite sport in the run-up to the Summer Olympics.

Moderately brisk daily walking is the most recommended physical activity for elder people. Based on the available studies, a minimum of 30 minutes of walking has been suggested. Walking upstairs is another useful exercise. Additional physical activity specifically targeted at elder people, such as muscle strengthening exercises, swimming or other types of activities to improve cardiovascular function and muscle strength, can be a valuable regular (two to three times a week) complement to everyday activities (EU Guidelines, 2008).

For adults (young to middle-aged), a slow/easy walk (stroll) may represent a physical effort of 3500 steps per 30 minutes, while the same effect would be achieved for elder people with an effort of 2500 steps per 30 minutes. Thus, moderate walking would require 4000 steps for adults and 1500 steps for elder people, while vigorous walking (walking uphill, stairs or jogging) would require 4500 steps for adults and 4000 steps for elder people (EU Guidelines, 2008).

According to Eurostat (2017), the proportion of elder people who are physically active is higher in Slovenia than in Poland (see Chart 1), but there is no Eurostat data for Macedonia.

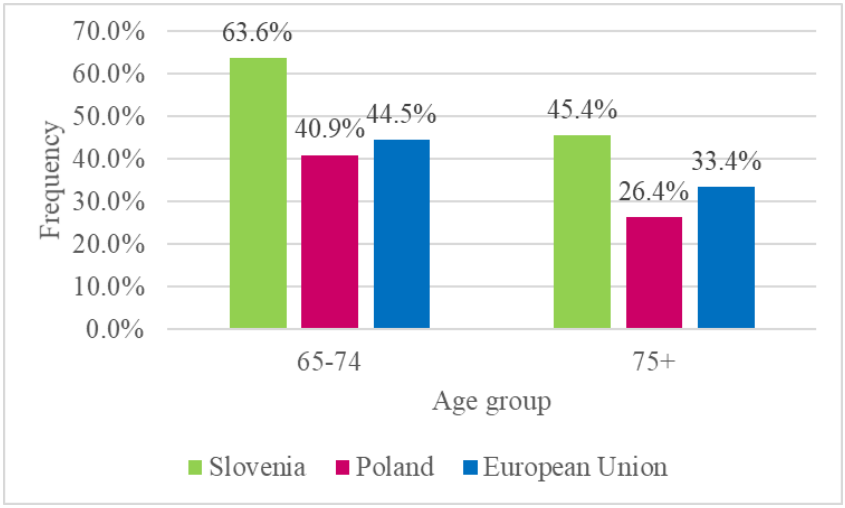


Chart 1: Proportion of elder people who take part in regular physical activity.
Source: https://ec.europa.eu/eurostat/cache/digpub/ageing/

The design and implementation of sports training for people aged 65+ is usually based on adaptations and simplifications. The way in which former elite athletes are involved in recreational sport and exercise when they reach these years depends mainly on their preferences, needs, preservation of their physical abilities, state of health, as well as on the availability of sports facilities and the cost of using them. The benefits that appropriately designed physical and sporting activities bring or make possible for elder people have long been known and are complementary.

To successfully engage people with a strong competitive sports background, a comprehensive approach is recommended, including a motivational component and knowledge of those theoretical fundamentals that define the chosen practical exercise. At the same time, we need to be aware that excessive physical activity also has negative consequences. Very intense physical activity (increasing distance, load, and speed) can quickly push the individual over the aerobic threshold (anaerobic metabolism is activated, blood catecholamine levels rise, excessive sweating, heavy arms and legs, dizziness, light-headedness, shortness of breath, burning chest pain. If excessive activity continues, the negative symptoms escalate and can threaten the individual's health or even life (Marušič, Starc and Starc, 2005, p. 228).

Analyses of physical activity worldwide show a decline in regular exercise with age in recent decades, with only a decline in participation in competitive sport in the elderly (Weir, Baker and Horton, 2010).

Are all the benefits of physical activity also true for former elite athletes? Does the "thicker blood" found in many athletes, which is one of the foundations of good physical performance and success, also help them to have a better quality of post-sport life and health, or does it perhaps represent a major risk and require more attention to health protection and regular medical check-ups? The argument (Wang, 2006) that moderate physical activity in old age prevents the risk of thrombosis is also true for them.

There is little research on the physical activity of former elite athletes in old age and the associated effects on health, nor are there many exercise models and recommendations addressing the exercise of former elite athletes. This handbook aims to reduce this gap.

ELITE SPORT

Sport is a component of variations, which include elite sport, sports education and sports recreation, as well as movement activities, which are an integral part of kinesiotherapy (Berčič, 2015). For elite sport, it is considered (Petrović,1986) that, by all possible criteria, sports training is nothing more than hard physical and mental work.

The Law on Sport in the Republic of Slovenia (2017) lists various forms of sport for individuals of all ages, namely:

1. leisure-time sports education for children and young people,
2. sports education for children and young people with special needs,
3. extracurricular sporting activities,
4. sports education for children and young people, aimed at quality and top-level sport,
5. quality sport,
6. top sport,
7. disability sport,
8. sports and recreation,
9. elderly sport.

According to Slovenian legislation (Sports Act, Article 2, 2017), a top athlete is an international, world-class, or Olympic athlete who has achieved a top result in an international competition in an absolute age category and is entered in the register of categorised athletes as an elite athlete.

For elite sport (Petrović, 1986), it is considered that, by all possible criteria, sports training is hard physical and mental work. Training of an elite athlete requires such an amount of energy expenditure and information processing that, in most developed sport disciplines, such training surpasses the hardest physical work, which lay public is often unable to comprehend, as well as forms of intellectual work, which is present often also outside the training process itself.

"... you train for years and years, usually from early childhood on, but you don't know if anything will come of it. You have to try hard, but you also need to have a talent. Results of all efforts come out only after a while. When you realise your goals, it takes twice as much effort to keep up at this level in the sport arena. This is the challenge and the fear and the hope of every elite actor, whether in sport or in any other field of excellence..."

Selective or elite sport can hardly be said to be a source of health. The consequences of relentless training and frequent (over)exertion of the body at the limits of its capacity are reflected in numerous injuries and other health problems both during active participation and after the end of a sporting career (Kristan, 2010).

Researchers studying the end of sports careers state that "almost two-thirds of athletes experience the unpleasant consequences of 'identity loss' followed by the formation of a new identity at the end of their career" (Cecić Erpič, 2002a, b). The awareness of the need to prepare athletes for life after their sports career is largely present in the professional and general public, but there is less awareness of the need to ensure that athletes continue to be physically active on a regular basis after the end of their sports career.

CHARACTERISTICS OF ELITE ATHLETES

Intense sport participation influences athletes' personal, physical, emotional, intellectual, and social development. Research on personality in sport focuses primarily on finding and understanding personality traits, goal orientations and emotions, and how these factors influence performance and psychological development in sport (Tušak, Marinšek & Tušak, 2009).

Tušak and Faganel (2004) state that athletes have a specific psychological profile, with higher levels of self-confidence, extraversion and motivation, and lower levels of anxiety and depression compared to non-athletes.

Tušak, Marinšek and Tušak (2009) state that elite athletes have high social intelligence, and they are good social interactants, more sociable and communicative. According to them, a top athlete is an individual who seeks and demands maximum support in order to achieve his or her own best. They are self-reliant, self-disciplined and able to cope and handle themselves extremely well in all kinds of situations.

Tušak, Kos R., Bednarik and Kos, Z. (2002) concluded that gender differences have disappeared at the level of elite sport. The development of sport today and the demands placed on athletes are leading in the direction of involving many different scientific disciplines in the field of sport, as each can contribute in its own unique way. Research on personality in sport focuses primarily on the search for and understanding of personality traits, individual goal orientations and emotions, and the influence of these factors on performance and psychological development in sport.

AGE AND AGEING

Ageing and old age cannot be avoided. Old age can be defined as the last developmental period in a person's life (Slovene Dictionary). Chronologically, in the developed world, this period is usually beyond the age of 65 and is often associated with retirement (WHO, 2017).

If we consider the end of a working career as a turning point, we should also consider the end of a competitive sports career as a kind of retirement, which requires a re-setting of values, goals, and activities, including a new organisation of participation in physical activities.

Sport for the elderly is a recreational physical activity for people over 65 years of age (Sport Act, Article 2, 2017).

People aged 65 and over are the fastest growing age group in industrialised countries and represent an increasing proportion of the population. It is important that this group maintains a satisfactory quality of life, a satisfactory level of cognitive and physical abilities and emotional wellbeing. Supporting life satisfaction and quality of life among elder people is one of the major challenges facing society. Research has shown direct links between physical activity and quality of life in late adulthood (improved perceived quality of life after six weeks of exercise, better health, fewer hospitalisations, etc.). Maintaining satisfactory physical and intellectual abilities and social relationships were prerequisites for a higher quality of life.

Healthier lifestyle is a key factor in preventing serious chronic diseases and premature mortality. Inadequate physical activity is considered a major health risk in society. Inactive leisure time has also been confirmed in a representative sample of women and men in the European Union (EU) (that 27% of men and 35% of women in EU do not engage in any form of physical activity (Margetts et al., 1999).

For people aged 65 years and beyond, the World Health Organisation recommends (WHO, 2017) at least 30 minutes of moderate physical activity most days of the week, preferably all days of the week.

There are big differences between individuals at different ages. We need to bear in mind that physical and other abilities can vary greatly in elder people. This is also true in the area of physical activity and sport.

Among the seniors there are also people with a rich history of sport engagement, built up through years of systematic training. Encouraging findings show that regular physical activity can slow down some of the ageing processes and associated problems.

In an interesting and convenient scale developed by Spirduso (1995), elder individuals are divided into five groups according to their physical abilities. These are:

- physically elite,
- physically strong or fit,
- physically independent,
- physically frail,
- physically dependent.

The physically elite can take part in a variety of sport competitions and strength-intensive physical activities (senior Olympic, higher risk and power sports – skiing, weightlifting; coaching).	 Prezelj, world record holder in high jump in the 70+ age group. Photo: https://arhiv.gorenjskiglas.si/article/20140916/C/140919835/dusan-prezelj-je-novi-svetovni-rekorder-
Individuals in the Physically Strong or fit group are capable of moderately demanding physical work and can participate in all endurance sports and games and a wide variety of hobbies (self-motivated, open options regarding sports, practise in local recreational groups).	 Tennis group, total age 421 years; 3 elite athletes or athletes with disabilities included. Photo: own archive
The physically independent are the group of individuals who can engage in lighter forms of sport or recreational activities and physical work, hobbies – gardening, walking, low physical demand activities – dance, hand craft, travelling, automobile driving.	 Slovenian torch: Štefan Robač, 1956 Olympic Games Olympian, 91 years old; regularly trains and runs (left), Paralympian Alenka Iršič, 53 years old (centre), regularly trains sitting volleyball and Mirko Bavče, 1964 Olympic Games Olympian, 79 years old, regularly plays tennis, bowls. Photo: https://bakla.olympic.si/fotoutrinki
The Physically frail: Light housekeeping, food preparation, grocery shopping, some basic daily living activities, may live on his/her own	 Photo: Slovenj Gradec Senior Citizens' Home, sports activities.
The physically dependent are those who need help with walking, washing, dressing, feeding and sometimes institutional help.	 Photo: Slovenj Gradec Senior Citizens' Home, walk.

Whichever group we belong to, changes occur over the years that we experience as:

- changes in strength, muscle mass,
- heart and lung efficiency,
- slowed metabolism,
- increased joint sensitivity and vulnerability,
- as well as for prolonged recovery after work or sports training.

The more pronounced decline in ability is particularly marked in muscle strength and functions related to the cardiovascular and respiratory systems. All these changes also apply to former elite athletes.

Hippocrates wrote: "All parts of the body that are properly used in work develop well, stay healthy and age slowly. If they are not used, they are prone to disease, stunt growth and age more quickly." (Berendijaš, 2011, p. 7)

Regular recreational exercise is one of the most effective ways of combating these problems. Physical and mental functions can, in principle, be improved at any age. The acquired physical and motor base of elite athletes provides a qualitative basis for progressing to progressively more moderate sports activity, which is not necessarily related at all to the sports activity in which that person reached his or her competitive peak.

There are people, Sperryn (1994) argues, who need competitive stimuli throughout their lives. Elder people can usefully channel some of this energy into relaxing sports recreation. However, we are aware that there is no guarantee that an active sportsman or sportswoman will live longer than his or her inactive peers. However, there is certainly no disputing the fact that regular recreational exercise has an impact on the quality of life. Recommended activities for the elderly include those that provide regular rhythmic contraction of large muscle groups. Walking, jogging, cycling, and swimming are major contributors to this, according to the author.

Ending the career of a top athlete and stopping training at the same time can also pose a risk in terms of their health. Stopping training can quite quickly push that person into the category of people at physical and functional risk, including weight gain, high blood pressure and so on.

CHANGING ABILITIES OVER THE YEARS

The physiological changes that occur over the years are felt in changes in strength and muscle mass, heart and lung efficiency, slower metabolism, increased sensitivity and vulnerability of joints and ligaments, and longer recovery time after exercise. The references made by Bee, Schenker (2016) are hypothetical and refer to a situation where an individual would be a passive observer of his/her own ageing and age-related changes and would do nothing to slow them down in terms of an active and healthy lifestyle.

The functional capacity of a 70-year-old can be so preserved by daily exercise that it is not different from that of a 45-year-old (Berčič, 2012, p. 60). Regular physical activity contributes significantly to the maintenance of elder people's vital functions, adaptive capacity and bio-psychosocial, mental and spiritual balance and, consequently, also contributes significantly to the quality of life in the different stages of ageing (Berčič, 2012, p. 60).

We present the changes by decade since the 50s:

Changes in the 50s

Muscles and joint ligaments respond more slowly after prolonged sitting or lying down. The ankle joint is the most susceptible of all to changes during the ageing process. Ankle rigidity and stiffness occur, which no longer allows optimal cushioning of the foot's contact with the ground when running and walking faster. As oestrogen levels fall, women start to gain weight at an average rate of 0.5 kg per year. The fat distribution is more pronounced in women between the ages of 40 and 55 years, in many of whom it appears apple shaped. The calorie requirement is reduced by 200 per day.

Changes in the 60s

Aerobic capacity decreases by around 33% compared to a 20-year-old. Endurance declines at a much slower rate, which in turn makes it possible to engage in aerobic activities. Body height decreases by up to 1 centimetre per year and is associated with a decrease in muscle and bone mass. Targeted exercise slows down this decline. Joint flexibility and muscle flexibility are reduced, and strength and speed are lost. Fat deposits, especially around the waist, increase the risk of heart disease and diabetes.

Changes in the 70s

The loss of height is increasing, up to 3 centemetres per year, leading to posture problems, most often kyphosis, which again affects breathing capacity and neck pain. On average, a person loses up to 25% of muscle mass in this decade compared with 30 years ago. Almost a third of women experience bone fragility or osteoporosis.

Changes in the 80s

Muscles, liver, kidney and other organs lose some of their cells in a process called atrophy. This is the loss of water in the body's structure. The metabolism slows down and needs fewer calories in the diet. We recommend elder people to be physically active and enjoy the benefits that these activities provide.

As we get older, our abilities gradually diminish. This is also true for elite sportsmen and women. The most pronounced decline in ability is seen in muscle strength and functions related to the cardiovascular and respiratory systems.

Regular recreational exercise is one of the most effective ways of combating these problems. Function can be improved at any age. The built-up exercise base of elite athletes can be an excellent basis for moving into more moderate activity in later life, which does not necessarily have to be linked to activity at the peak of competition.

After a career in sport, there are many reasons why people often stop playing sport completely. Sperryn (1994) pointed out that some people have a natural preference, or perhaps it is a handicap, for a lifetime of competitive stimuli.

This can be centred in competitive work energy balanced by relaxing non-competitive sport and recreation, or it can lead people into a state of constant competition in work and play. We

know that there is no guarantee that an active sportsman or sportswoman will live longer than his or her non-athletic peers, but it is certainly true that regular exercise improves the quality of life of an active individual.

In the long term, the ideal sports for physical and functional fitness are those that provide regular rhythmic contractions of large muscle groups. In this sense, running, walking, cycling, and swimming are very beneficial, concludes Sperryn.

There are many Olympians who have lived to be 100 or more.

Research has not given a clear answer that athletes live longer than non-athletes, but they certainly have a higher public profile and can influence others to follow their sports lifestyle to a greater extent.

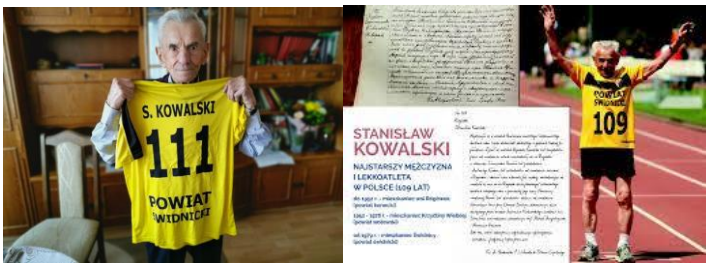


Photo: Stanislaw Kowalski
https://www.powiat.swidnica.pl/a,95,111-urodziny-

Examples of common health problems in elder people

Ending the career of a top sportsman or sportswoman at the same time as stopping training can also pose a risk to his or her health. Two examples are high blood pressure and arthritis (Turk, 2000), where resumption of selected low-intensity recreational exercise can have a significant impact on limiting and reducing such problems.

High blood pressure is one of the key risk factors for heart disease. Top sportsmen and sportswomen, when they stop training, can quite quickly return to the range of physically and functionally people at risk, even with increased body weight.

Degenerative arthritis can occur in sportsmen and sportswomen who have suffered joint injuries during competition. With age, the tissue loses elasticity, small bone lumps develop at the edges of the bones (osteophytes), cartilage plates become thinner, etc. Sometimes there are no signs of disease, but sometimes there is a twitching sensation when the knee, for example, is flexed and extended, even though it does not hurt.

For individuals with arthritis, we aim to improve or maintain existing cardiovascular fitness and muscular strength and to ensure the stability of the affected joints. We also aim to improve or maintain flexibility or range of movement, thus reducing joint stiffness and laxity. The indicative recommendation is to exercise three times a week for 45 minutes on a scheduled basis. Strength training is necessary to strengthen the muscles, because only properly strong muscles can provide adequate support to the joints and thus protect them. The choice of exercises is influenced by the type of joint and the nature of the problem caused by the person's arthritis.

People who have problems with high blood pressure should consult a doctor before taking part in any exercise programme. Exercise for people with high blood pressure should emphasise aerobic activities and care for optimal body weight. For this group of elderly people, lower intensity exercise is recommended, as it is also effective in lowering blood pressure and is safer.

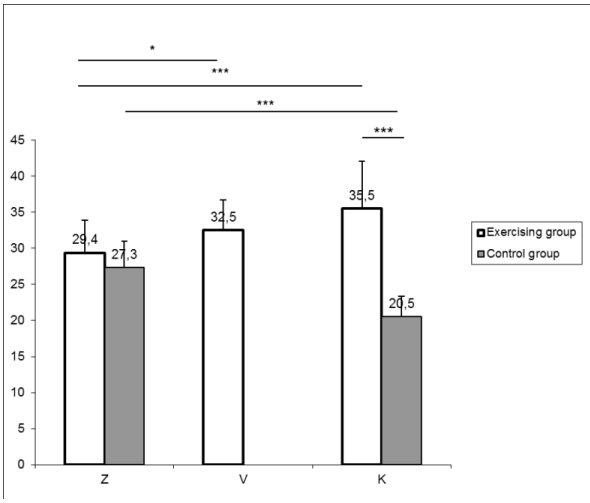
Isometric exercise should be avoided as it increases blood pressure and poses risks. Low and moderate intensity strength training benefits elder people because it strengthens the muscles of the body. High blood pressure is known to increase chances of stroke, heart attack and kidney damage, and can also affect the onset of dementia.

IT'S NEVER TOO LATE TO BE PHYSICALLY ACTIVE.

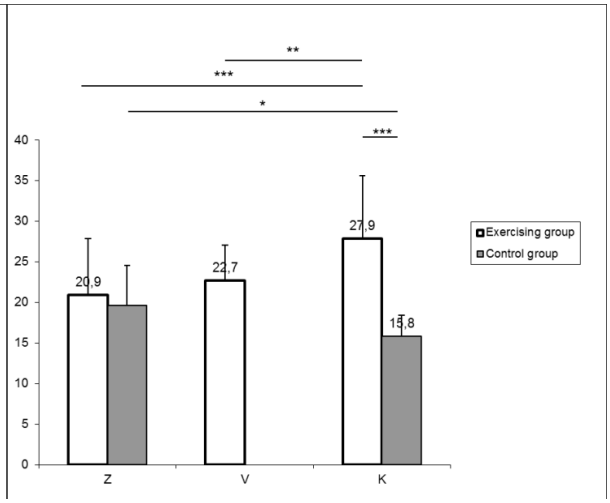
The fact that it is possible to develop and maintain the motor skills of elder people even in late old age is demonstrated by the results of movement and functional tests of female participants aged 65 and over who took part in the study, which ran from 2006 to 2011.

The Fullerton Test Battery (Rikli & Jones, 1999a, b) and the modified Sport and Physical Education Scale (1996), which test motor and functional competence, tested motor skills such as strength, flexibility, and balance, as well as speed, coordination and endurance, and confirm the impact of physical training on improving motor skills. Progress was shown in shoulder range of motion (test back scratch-touching hands on the back), abdominal and trunk muscle strength (test lifting torso for 60 seconds), upper limb strength (test weightlifting sitting 30 seconds, test hanging from a bar and test squeezing fists by dynamometer), lower limb strength (test getting up from a chair 30 seconds), spinal flexibility (test torso bending forward on the bench), coordination, speed and balance (test touching panel by hand for 20 seconds and test walking backwards on hands and feet), general endurance (test walking for 9 minutes) and functional mobility (test get up and go). Poorer results were obtained in the long jump from standing and balance on one leg with eyes open tests (Novak, 2011).

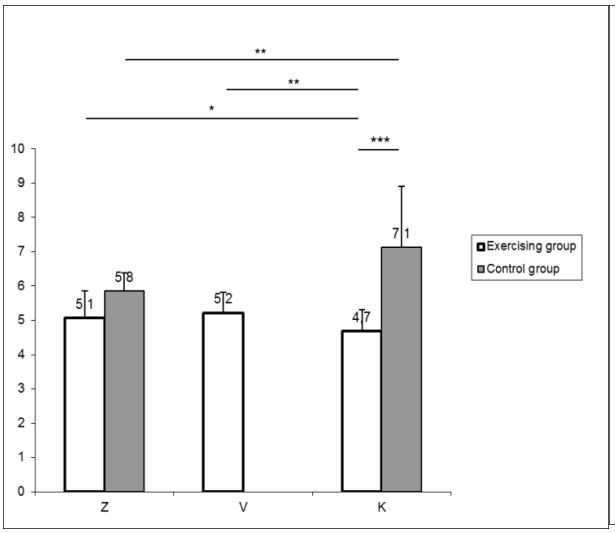
The figures show the progress of the exercise group in relation to the control group for the following tests: arm curl-weightlifting sitting 30 seconds, chair stand-getting up from a chair 30 seconds, get up and go, walking for 9 minutes, balance on one leg with eyes open and back scratch-touching hands on the back.



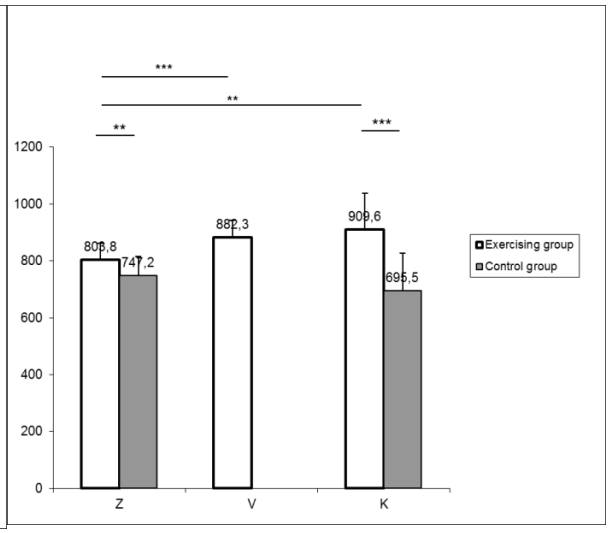
Comparison between exercise and control group members in the test arm curl-weightlifting sitting 30 seconds. Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K - 2011 measurement, *P<0.05, ***P=0.000.



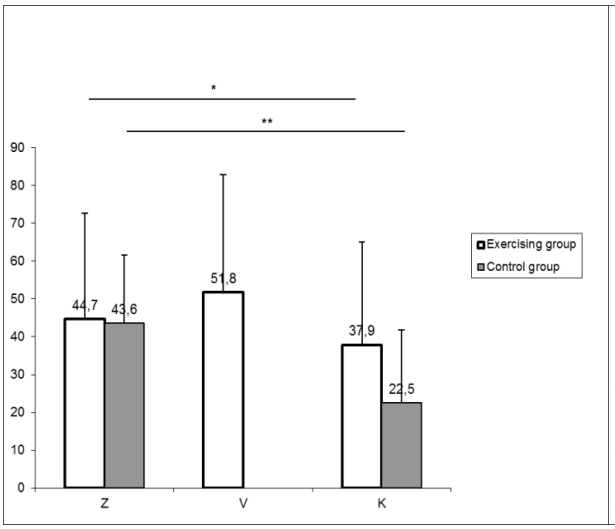
Comparison between exercise and control group members in the test chair stand-getting up from a chair 30 seconds. Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K – 2011 measurement, *P<0.05, **P<0.01, ***P=0.000.



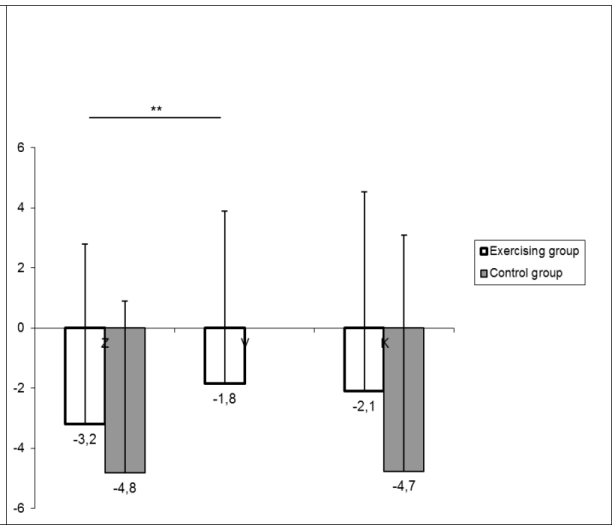
Comparison between exercise and control group members in the test get up and go.
Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K – 2011 measurement, *P<0.05, **P<0.01, ***P=0.000.



Comparison between exercise and control group members in the test walking for 9 minutes.
Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K - 2011 measurement, **P<0.01, ***P=0.000.



Comparison between exercise and control group members in the test balance on one leg with eyes open. Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K – 2011 measurement , *P<0.05, **P<0.01.



Comparison between exercise and control group members in the test back scratch-touching hands on the back. Z - pre-exercise measurement 2006/07, V - post-exercise measurement 2006/07, K - 2011 measurement, **P<0.01.

SPORTS ACTIVITYS OF FORMER ELITE ATHLETES

The aim of the survey on physical activity of former elite athletes in the AHOS partner countries was to gain insight into the involvement of former elite athletes in regular physical activity and sport, to learn about the factors influencing activity and the impact of sports activity/inactivity on different domains. The survey was conducted in three countries: Slovenia (358 athletes participated), Poland (N = 126) and North Macedonia (N = 106). With the help of the Olympic Committees and Olympic Athletes' Associations, we sent a request for participation to the addresses of former Olympians and categorised athletes, 338 former athletes completed the survey (Slovenia (N = 205), Poland (N = 65), North Macedonia (N = 68)).

To gain insight into the preferences of active elite athletes and their thoughts about engaging in physical activity after their sports career, we also invited them to participate in the study (N = 212; 143 in Slovenia, 45 in Poland, 24 in North Macedonia).

In order to learn more about the support for former elite athletes in sports organisations, we also conducted a survey with representatives of national sports federations in Slovenia (N=18).

RESULTS OF A SURVEY OF FORMER ELITE ATHLETES

Among the former surveyed athletes who had already finished their careers, 18.6% (N=60) were aged 65+ and 21% were aged under 35. Good three-fifths were men and just under two-fifths were women.

Injury or health problems were the most common reasons for concluding their sports career. The second most common reason was work/study commitments and burnout in Slovenia, followed by age and other work and study commitments in North Macedonia, and financial reasons (contract termination, sports scholarships, etc.) and change of residence in North Macedonia.

TAKING PART IN PHYSICAL ACTIVITIES

We were interested in the involvement of former athletes in the sports activities of sports associations and federations. Good two-fifths of all respondents are involved in sport as coaches (43.5%), one-fifth (21.3%) as officials, 18% as volunteers, 15.4% as professionals, 12.1% as referees, 8.3% as consultants. 5.9% are managers, 1.5% are veteran competitors, 12% are not involved in sport, not even as fans.

Less than a fifth (18.6%) were supported to continue their activities after their career (most in Poland, least in North Macedonia). Support most often took the form of educational opportunities for sports workers (coaches, managers) and integration into formal education, scholarships, employment, as well as recognition for achievements and a financial allowance upon retirement. For the purpose of further involvement in sports activities, few respondents mentioned the possibility of free access to sports facilities.

Overall, 88.6% of respondents continued their sports activities after their sports career. The proportion of former athletes who are active after their sports career is the same in Poland and

Slovenia, and lower in North Macedonia, where almost a quarter (24%) are not involved in any physical activity.

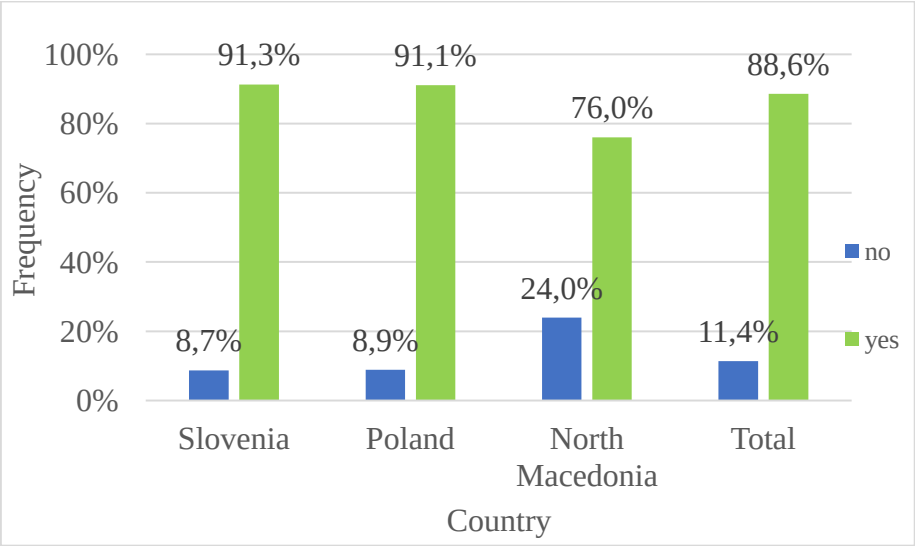


Chart 2: Continuation of sports activity after the end of a competitive career, by country.
Source: AHOS own survey, 2021

Almost two-fifths of former athletes from Poland, one-third from Slovenia and 17.3% from North Macedonia participated in veterans' sports competitions.

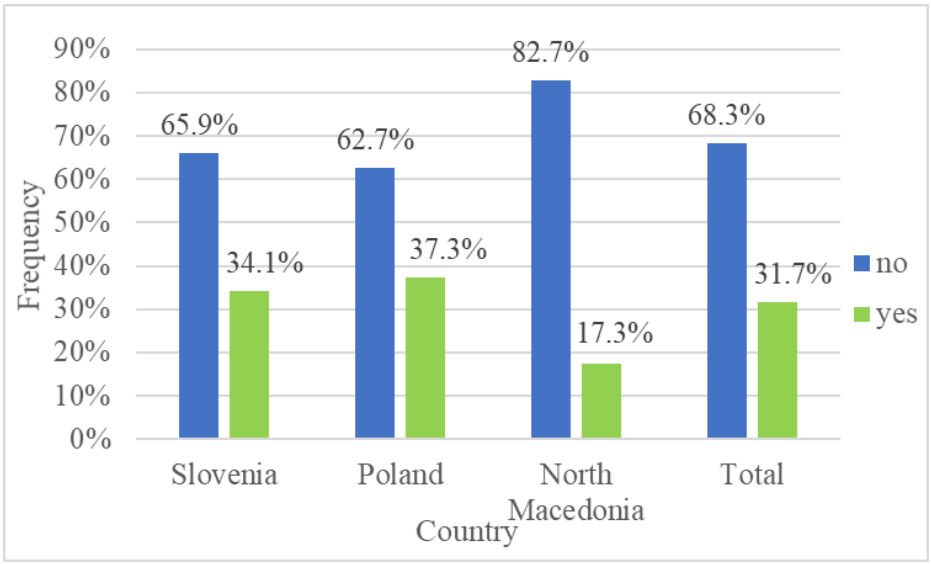


Chart 3: Participation in veterans' competitions.
Source: AHOS own survey, 2021

There is considerable variation between countries in the sports they take up after their careers are over. In Slovenia, former athletes often report that they play several sports, most commonly walking, running, cycling, hiking, and skiing. In Poland, cycling and running, swimming, rugby and martial arts are the most common activities. In North Macedonia, the most common sports are martial arts, volleyball or fitness, hiking and walking. The differences between countries are conditioned by the tradition of the sport and the accessibility to sports facilities and the accessibility to the respondents by the staff involved in the implementation of the surveys.

Table 1: The most common sports played by former competitors.

Sport	Slovenia		Poland		North Macedonia		Total	
	f	%	f	%	f	%	f	%
Walking	119	58.0%	5	7.7%	1	1.5%	125	37.0%
Running, cross fit, athletics	68	33.2%	12	18.5%	4	5.9%	84	24.9%
Road cycling, mountain biking	57	27.8%	16	24.6%	3	4.4%	76	22.5%
Hiking, mountaineering, alpinism	38	18.5%	1	1.5%	3	4.4%	42	12.4%
Fitness	21	10.2%	3	4.6%	11	16.2%	35	10.4%
Tennis	27	13.2%	4	6.2%	2	2.9%	33	9.8%
Skiing, snowboarding	28	13.7%	2	3.1%	2	2.9%	32	9.5%
Martial arts (judo, taekwondo, karate, wrestling, boxing kickboxing, jujitsu, MDS)	15	7.3%	4	6.2%	12	17.6%	31	9.2%
Volleyball, beach volleyball	15	7.3%	1	1.5%	9	13.2%	25	7.4%
Functional exercise	14	6.8%	8	12.3%	2	2.9%	24	7.1%
Swimming	10	4.9%	10	15.4%	2	2.9%	22	6.5%
Football	14	6.8%	5	7.7%	1	1.5%	20	5.9%
Cross-country skiing	18	8.8%	0	0.0%	0	0.0%	18	5.3%
Basketball	9	4.4%	3	4.6%	3	4.4%	15	4.4%
Badminton	11	5.4%	0	0.0%	0	0.0%	11	3.3%
Yoga	5	2.4%	3	4.6%	3	4.4%	11	3.3%
Hockey	7	3.4%	3	4.6%	0	0.0%	10	3.0%
Golf	7	3.4%	0	0.0%	0	0.0%	7	2.1%
Rugby	0	0.0%	7	10.8%	0	0.0%	7	2.1%
Handball	3	1.5%	1	1.5%	2	2.9%	6	1.8%
Triathlon	3	1.5%	2	3.1%	1	1.5%	6	1.8%
Dance	3	1.5%	1	1.5%	1	1.5%	5	1.5%
Kayak, canoe	4	2.0%	0	0.0%	1	1.5%	5	1.5%
Windsurfing, kiting	5	2.4%	0	0.0%	0	0.0%	5	1.5%
Aerobics	1	0.5%	0	0.0%	3	4.4%	4	1.2%
Paragliding, gliding, aviation	4	2.0%	0	0.0%	0	0.0%	4	1.2%
Rowing	2	1.0%	1	1.5%	1	1.5%	4	1.2%
Sailing	4	2.0%	0	0.0%	0	0.0%	4	1.2%
Shooting	4	2.0%	0	0.0%	0	0.0%	4	1.2%
Diving	3	1.5%	0	0.0%	0	0.0%	3	0.9%
Skating	2	1.0%	1	1.5%	0	0.0%	3	0.9%
Archery	1	0.5%	0	0.0%	1	1.5%	2	0.6%
Fencing	1	0.5%	0	0.0%	1	1.5%	2	0.6%
Fishing, spearfishing	2	1.0%	0	0.0%	0	0.0%	2	0.6%
Pilates	2	1.0%	0	0.0%	0	0.0%	2	0.6%
Table tennis	1	0.5%	0	0.0%	1	1.5%	2	0.6%
Team games	1	0.5%	1	1.5%	0	0.0%	2	0.6%
Weightlifting	0	0.0%	2	3.1%	0	0.0%	2	0.6%
Bodybuilding	0	0.0%	0	0.0%	1	1.5%	1	0.3%
Climbing	1	0.5%	0	0.0%	0	0.0%	1	0.3%
Horses	1	0.5%	0	0.0%	0	0.0%	1	0.3%
Rolling; longboard	1	0.5%	0	0.0%	0	0.0%	1	0.3%
Ski jumping,	1	0.5%	0	0.0%	0	0.0%	1	0.3%
Water skiing	1	0.5%	0	0.0%	0	0.0%	1	0.3%
Squash	0	0.0%	1	1.5%	0	0.0%	0	0.0%
Total	534	100%	57	100%	53	100%	644	100%

Source: AHOS own survey, 2021

When asked which form of activity is closest to their heart, former elite athletes most often answered that they exercise alone (almost half), followed by exercising with friends and acquaintances. Of the 9 sports offered, hiking, fitness, dance, and volleyball were the most frequently chosen as activities they would be willing to participate in.

Most former athletes rate their health as very good (35.7%), 29% as good, 16.7 as excellent, 15.6 as fair & only 1.5% as poor. They rate high on various indicators of independence and are independent at work and in everyday tasks (M_{SLO}=4.6; M_P =3.9; M_{NM}=3.8).

Physical activity was rated highest among the factors influencing health (M=4.4). 70% rate their weight as normal and 28.6% consider themselves too heavy. Only 0.7% consider their weight too low. 81.1% rate their blood pressure as normal, 12% as too high and 3.3% as too low. 7.4%, 49.8% and 33.6% rate their health care as excellent, good, and very good respectively. A tenth report they take poor or no care of their health.

MOTIVATIONS FOR EXERCISE

Motivational factors play a very important role in exercise engagement. Many elder people find many excuses not to exercise, including that they are happy without sport, they do not have the time, they have other hobbies, they do not have the finances, they do not have suitable friends, they are tired of exercise, they do not feel any better after exercise, exercise has no effect, etc. (Tokarski, 2004; Alexandris et al., 2003).

Motivational factors are known to positively influence people to think of physical activity as an activity that has a positive impact on quality of life, health, life expectancy, mental stability, and self-esteem, and comprise six groups of factors: social, active, recognition, gain and challenge, health and fit.

The social factors refer to the statements about wanting to be social, to meet friends and to make new friends; the sport-active ones include the statements about liking exercise and sport, being fit, being in shape and getting fitter; the recognition statements are being popular, being important, getting rewarded for effort; the acquisition and challenge factors refer to the statements I would like to change, I feel great, I like being active, I relax when I exercise and do sport, I always learn something new and I like the excitement of it all.

The health factors touch on health claims that exercise or sport prevents and relieves pain, has an impact on health and enables mobility, while the placement factor contains claims about wanting to go out, to get away from home, to have something to do and my family supports me in this. Interestingly, studies in both men and women show the highest percentage of exercise engagement due to the sport-activity factor, such as keeping fit through exercise or sport and the desire to exercise or play sport (Kolt et al., 2004; Navarro et al., 2007).

Senior athletes participating in the AHOS survey rated health and wellbeing, staying fit and having fun and relaxing highest on a five-point scale.

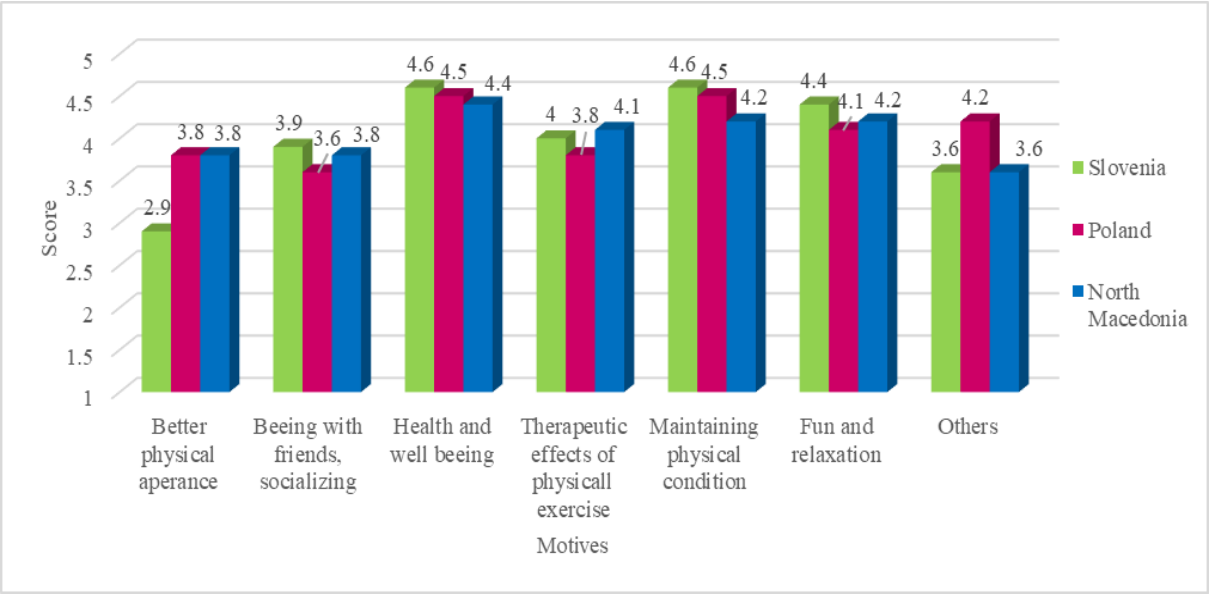


Chart 4: Motivations of former senior competitors (AHOS, 2020-2021).
Source: AHOS own survey, 2021

Similar motives were also reported by participants in Novakova's (2011) 2006 - 2011 study aged 65 and beyond, who ranked improving health (81.2%), better fitness (62.5%), and increased strength and flexibility (62.5%) as the top motives and very important reasons for exercising before starting to exercise. Aesthetic appearance and positive role model did not influence motivation to be active in sport, and social life was also found to be a low motivator for exercise (25%). Interestingly, motives for exercise changed slightly after the survey was completed. Improved fitness (75.0%) and increased strength and flexibility (80.0%) were still the top motives, joined by motives such as fun and entertainment (70.0%), improving health (85.0%), curing illness (60.0%) and social life (55.0%). Interestingly, 35.0% of the female participants also mentioned aesthetic appearance as a very important motive for exercise, which was a completely unimportant reason for exercise before the survey.

When asked what would motivate them to take part in sport, senior athletes who participated in the AHOS survey most frequently chose the opportunity to train with other former elite athletes and the possibility to use sports facilities free of charge. The same reasons were also most frequently chosen by active elite athletes who participated in the AHOS survey, who added the opportunity to train recreationally in their sport as one of the top three most frequent factors.

When asked what would motivate them to be more active in sport, the surveyed senior athletes answered that it would be exercise with more fun and relaxation, or exercise with a focus on therapeutic recreation.

Among the important factors, top senior athletes most often cite proximity to training facilities, convenient timing, cost, type, and variety of training. The least important factors for them are accessibility by public transport, the presence of medical staff and the presence of well-known athletes.

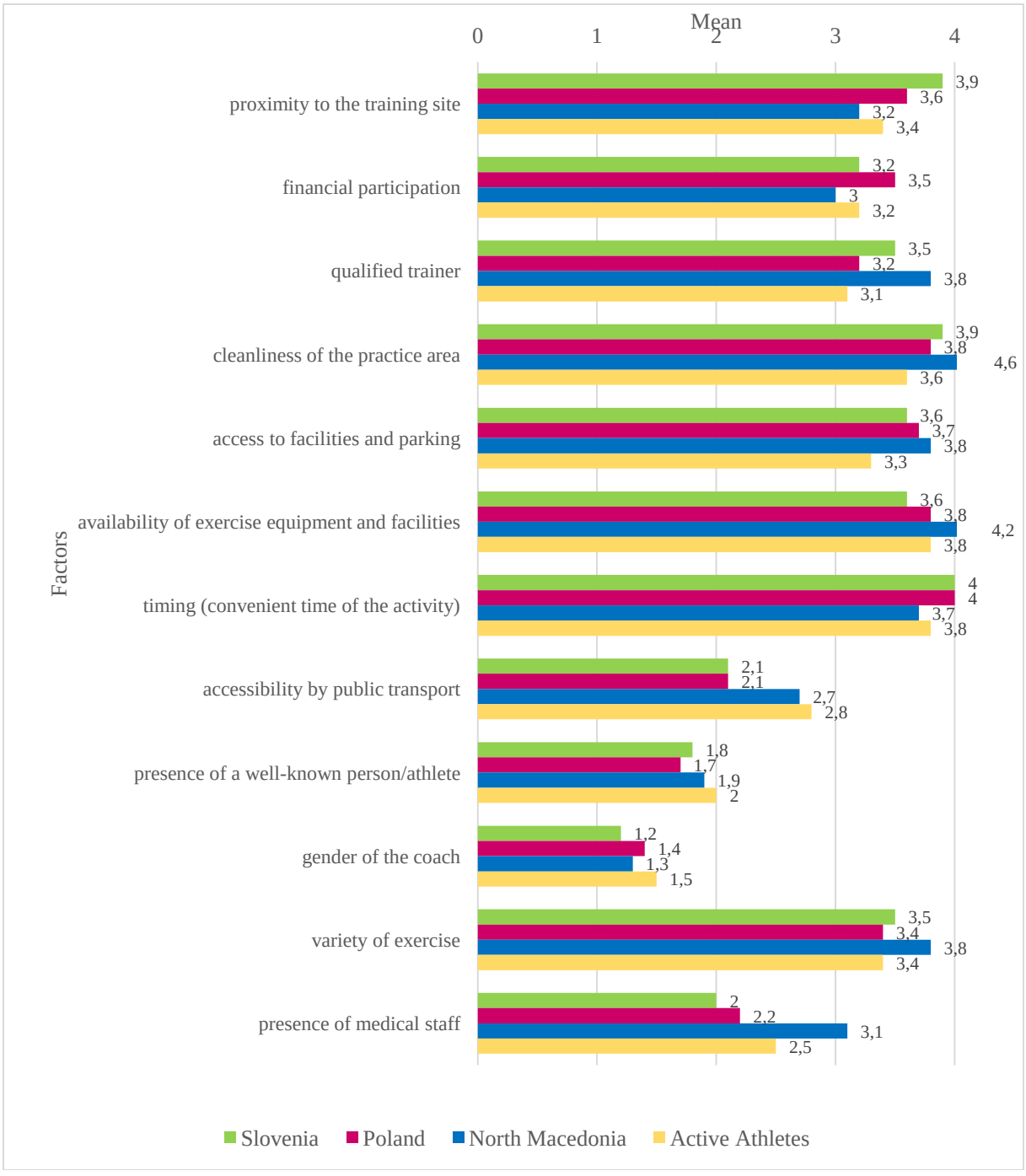


Chart 5: Motivational factors of former senior and active competitors.
Source: AHOS own survey, 2021

SATISFACTION WITH LIFE

Life satisfaction is a multifaceted indicator of quality of life or personal wellbeing, which is a function of many factors, e.g., democracy, personal autonomy, trust, health (Javornik, 2009). It represents the cognitive component of subjective wellbeing, or an individual's assessment of his or her own wellbeing, health, friendships and partnerships, as well as satisfaction with themselves. Here, subjective life satisfaction is a trade-off between what is important to us and what is actually achievable (Pychyl & Little, 1998).

Diener (1984) groups the definitions of subjective satisfaction and happiness into three categories. The normative definitions include definitions that define satisfaction in terms of external criteria. In these definitions, the criterion for satisfaction is not the individual's subjective evaluation, but the framework of values held by the observer. The second group includes definitions that refer to the individual's standards that define what a good life is. The third group includes definitions that describe satisfaction as the predominance of positive emotions over negative ones, although the concept of satisfaction cannot be equated with positive emotions, even though there is a link between the perception of different emotions. According to Diener, there are three main determinants of life satisfaction: 1. satisfaction is subjective and exists in the individual's experience, 2. subjective satisfaction contains positive criteria, and 3. subjective satisfaction contains a global assessment of all aspects of one's life.

In older age, satisfaction is particularly influenced by having a rewarding job, as Baker et al. (2005) noted, which increases happiness and life satisfaction and reduces depression, which is associated with social integration and a meaningful role in society, and McAuley et al. (2006) concluded that physical activity has an important influence on satisfaction, as those who are physically active are more satisfied with their lives compared to those who are not physically active. Lyubomirsky et al. (2005) suggest that a positive experience of life satisfaction also has an impact on better health, general wellbeing, increased self-esteem and is positively reflected in both work and social relationships.

Individuals who are physically active are more satisfied with life (Bastug & Duman, 2010).

Athletes who participated in the AHOS study and have completed their careers showed high levels of satisfaction on the Diener Life Satisfaction Scale (1985). Athletes are satisfied with their lives, with higher mean values than people who did not play sport. There are significant differences between senior athletes according to country.

Table 2: Satisfaction with life.

	Slovenia		Poland		North Macedo-nia		Total	
Item	M	SD.	M	SD.	M	SD	M	SD
In most ways my life is close to my ideal.	4.9	1.3	4.5	1.5	5.0	1.7	4,9	1.4
The conditions of my life are excellent.	5.1	1.3	4.8	1.4	5.0	1.7	5.0	1.4
I am satisfied with my life.	5.8	1.1	5.3	1.2	5.2	1.6	5.7	1.2
So far, I have gotten the important things I want in life.	4.8	1.5	4.1	1.6	5.2	1.7	4.7	1.6
If I could live my life over, I would change almost nothing.	5.0	1.4	4.3	1.6	4.8	1.8	4.8	1.5

Source: AHOS own survey, 2021

Table 3: Overall satisfaction with life.

	Slovenia		Poland		North Macedonia	
Item	M	SD.	M	M	SD.	M
Total satisfaction sum	25.5	5.4	23.0	6.1	25.6	7.1
Total average	5.4		4.6		5.1	
	satisfied		slightly satisfied		satisfied	

Source: AHOS own survey, 2021

Similar results were also found among participants in Novakova's (2011) study in 2006 - 2011, who were less satisfied with their lives before starting exercise than after the study period. According to Diener's Life Satisfaction Scale (Diener et al., 1985), at the six-month follow-up period, the participants considered their life to be almost ideal and the situation in their life to be excellent. At the end of the survey, these opinions were joined by the opinions that they had received all the necessary things they wanted in life so far and that they would not change anything if their life ended. Their subjective opinion was that they had a more optimistic outlook on life, a greater zest for life, a better self-image, and more positive stimuli from their environment.

The overall life satisfaction of former elite athletes (M=25.5, SD=5.4) is higher in the Slovenian sample than that of athletically active adults in Slovenia (M=26.4, SD=5.7) and of athletically inactive adults (AS=22.3, SD=5.5) (Goltnik Urnaut, 2019). The survey between physically active and inactive adults showed that the groups differed in satisfaction with hobbies, friends, family, and life satisfaction. There were also differences in health, fitness, health concerns, number of psychological symptoms, and the inactive had less energy for friends after work.

SELF-ESTEEM

Self-image is a perception that is manifested in one's attitude towards oneself, it is an opinion about oneself, it is the value that one attributes to oneself (Youngs, 2000). It encompasses an individual's conception, awareness and evaluation of one's own characteristics, traits, expectations, abilities, limitations, and capabilities, and is the sum of the various psychological, physical and social dimensions of one's personality. It is a complex, multidimensional dynamic system whose development is conditioned by the interaction between the external environment, its influences and the individual's own activity (Kobal, 2000).

Self-esteem starts to develop very early in an individual's development. It is influenced by significant others, first parents and educators, then peers. Success influences self-esteem. Overcoming obstacles and difficulties in sport by increasing effort in training, humour at one's own expense, choosing other activities in which one can achieve success, all have a positive influence on self-esteem. The individual learns to be a good and valued person regardless of mistakes and failures. However, if we believe that we are not good or that we are stupid because we have failed or made a mistake, this weakens our self-image.

A good self-image gives us a greater sense of satisfaction or happiness. It gives us the freedom to set goals, to know that we are "OK" even when we fail, to choose friends because we are worthy of having them, to take on new challenges because we have the necessary skills.

A positive self-image is closely linked to mental health. Individuals with a good self-image have fewer problems with depression and anxiety (Musek, 2005).

Researchers confirm changes in self-concept in people who engage in sport training and a more positive self-image in those who are active in sport (Folkins and Sime, 1981; Sherrill, 1993; Weiss and Ebbeck, 1996 et al.) Athletes have, on average, a better overall self-image than non-athletes, (Higgins,1980; Mahoney, 1989; Trujillo, 1983, after Kamal et al., 1995; Černoš Zaletel, 2003; Marsh, Hey, Roche and Perry, 1995).

It also showed differences in favour of athletes on individual dimensions of self-image:

- body self-esteem (Marsh, Hey, Roche, Perry, 1997),
- the bodily self (Goltnik Urnaut, 1999, Tušak, 1995),
- moral-ethical self (Černoš Zaletel, 2003),
- social self (Černoš Zaletel, 2003; Marsh, Hey, Roche, Perry, 1997; Mallick, Whipple and Huerta, 1987).

Comparisons between female and non-athletes most often confirm differences in body self-image, which is more positive in female athletes (Marsh and Jackson, 1986; Mallick, Whipple and Huerta, 1987).

There are differences in self-image depending on the level of involvement and performance in sport. Experienced competitors have a better self-image than novices (Richman and Rehberg, 1986, after Kamal et al., 1995; Mahoney, 1989), elite athletes have a more positive self-image than standard athletes, and both have a higher self-image than non-athletes (Solokun, 1990).

The improved self-esteem that results from engaging in sports activities has a reciprocal effect of increasing the likelihood that the individual will continue to participate in sports activities and thus enjoy the other benefits that result from regular sports activity. Sport has the potential

to positively influence an individual's self-perception of their physical and social self. It is very likely that the improved self-image resulting from sports activity, which is most evident in the area of physical self-image, will also have an impact on a good self-image in other areas and thus on performance in other spheres of life.

The value of the impact of sports activity on self-esteem depends on the different exercise situations. All types of regular physical activity have a positive effect on improving self-esteem (Gruber, 1985).

Research on the effect of sports participation on global self-esteem in adults shows that sports participation improves global self-esteem (effect size d = +0.23) (Spence, McGannon & Poon, 2005). Self-esteem improved most in those who perceived significant differences in physical fitness and those who participated in general sport but not sport-specific skills training. Physical activity is not directly related to general self-esteem. The direction and magnitude of the effect depends on the individual's perception of physical ability and competence (Sonstroem, 1982).) Sports activity has a greater impact on self-esteem in individuals who highly value the physical aspects of the self (Biddle, 1993). Highly developed physical abilities do not necessarily imply high physical self-esteem. The correlation between ability itself and self-esteem is low; what is more important is the individual's valuing or attaching importance to that ability. The correlation between evaluation and self-esteem is high (the correlation coefficient between self-esteem and evaluation is 0.45).

The AHOS survey asked respondents to rate how important each aspect of self-image is to them and how they rate themselves in different areas. It can be seen that physical ability and physical appearance are not the most important aspects of self-image, but satisfaction with physical self-image is very high (mean on a 5-point scale 4.5 SLO, 4.3 PL, 4.4 NM).

The differences between the importance of each domain and satisfaction with the domain are positive for physical appearance (rated as less important, with higher satisfaction), but high for physical abilities, with lower satisfaction ratings.

Table 4: Self-image of former elite athletes.

Area of self-esteem	Slovenia				Poland				North Macedonia			
	Importance		Satisfaction		Importance		Satisfaction		Importance		Satisfaction	
	M	SD.	M	SD.	M	SD.	M	SD.	M	SD.	M	SD
Physical appearance	3.6	0.8	3.9	0.8	3.7	0.9	3.8	0.6	3.8	1.0	4.2	0.9
Social, social life (friends, acquaintances, interpersonal relationships)	4.3	0.7	4.2	0.7	3.9	0.8	3.8	0.6	4.3	0.7	4.4	0.7
Personality	4.3	0.6	4.2	0.6	4.0	0.6	4.0	0.6	4.3	0.8	4.4	0.7
Emotional stability	4.4	0.7	4.2	0.7	4.2	0.6	3.9	0.7	4.4	0.8	4.3	0.7
Mental skills	4.4	0.7	4.3	0.6	4.4	0.6	4.1	0.6	4.5	0.7	4.4	0.7
Physical abilities	4.2	0.7	4.0	0.7	4.3	0.7	3.9	0.8	4.4	0.6	4.4	0.6
Family area (the people you live with and your role in it)	4.5	0.7	4.4	0.7	4.3	0.8	4.2	0.6	4.5	0.6	4.5	0.7
Religiosity	1.9	1.1	2.4	1.5	2.8	1.4	3.2	1.3	2.9	1.4	3.5	1.4
Moral ethics	4.1	1.0	4.2	0.8	4.1	0.9	4.0	0.8	4.4	0.7	4.4	0.8

Source: AHOS own survey, 2021

SURVEY RESULTS OF YOUNG ELITE ATHLETES

212 young athletes took part in the study, 103 women and 109 men. By country, 143 respondents were from Slovenia, 45 from Poland and 24 from Macedonia.

When asked how much physical activity they will continue to do after their competitive career, the most common answer was regular, every day, followed by 3-4 per week and as much as possible.

Table 5: Intention for future physical activity after sports career.

Answer	Slovenia		Poland		North Macedonia		Total	
	f	%	f	%	f	%	f	%
Regularly, every day, almost every day	19	30.6%	3	15.0%	1	8.3%	23	24.5%
3-4 per week	15	24.2%		0.0%	3	25.0%	18	19.1%
As much as possible, a lot	12	19.4%	3	15.0%	2	16.7%	17	18.1%
I will continue the activity, part of life, for the rest of my life	8	12.9%	6	30.0%	3	25.0%	17	18.1%
A little less; recreationally, without exaggeration, to maintain physical fitness	3	4.8%	1	5.0%	1	8.3%	5	5.3%
Depending on time, health	1	1.6%	4	20.0%	1	8.3%	6	6.4%
I do not know	2	3.2%	2	10.0%	1	8.3%	5	5.3%
Occasionally, moderate	2	3.2%	1	5.0%		0.0%	3	3.2%
Together	62	100.0%	20	100.0%	12	100.0%	94	100.0%

Source: AHOS own survey, 2021

Young people most often say that they will take up running, fitness, cycling and martial arts after their careers. Tennis, swimming, football, basketball, skiing, and hiking are also among the more desirable activities.

Table 6: Sports that top athletes would like to pursue after their competitive career.

Answer	Slovenia		Poland		North Macedonia		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Running, mountain run	11	13.8%	9	17.0%	3	8.1%	23	13.5%
Fitness, CrossFit, bodybuilding	11	13.8%	8	15.1%		0.0%	19	11.2%
Cycling	4	5.0%	8	15.1%	3	8.1%	15	8.8%
Martial arts	4	5.0%	5	9.4%	6	16.2%	15	8.8%
Tennis	7	8.8%		0.0%	2	5.4%	9	5.3%
Swimming	2	2.5%	4	7.5%	2	5.4%	8	4.7%
Football	6	7.5%	1	1.9%		0.0%	7	4.1%
Basketball	4	5.0%		0.0%	2	5.4%	6	3.5%
Skiing	3	3.8%	1	1.9%	2	5.4%	6	3.5%
Hiking	2	2.5%		0.0%	4	10.8%	6	3.5%

Source: AHOS own survey, 2021

Table 7: Plans to stay active in sport after the end of your sports career.

Role	Slovenia		Poland		North Macedonia		Total	
	f	%	f	%	f	%	f	%
Coach	95	27.1%	26	23.9%	11	26.2%	132	26.3%
Personal trainer	50	14.2%	8	7.3%	6	14.3%	64	12.7%
Physical education teacher, kinesiologist	29	8.3%	11	10.1%	2	4.8%	42	8.4%
Sports manager	18	5.1%	10	9.2%	10	23.8%	38	7.6%
Judge	25	7.1%	6	5.5%	3	7.1%	34	6.8%
Consultant	25	7.1%	4	3.7%	3	7.1%	32	6.4%
Volunteer	22	6.3%	7	6.4%	0	0.0%	29	5.8%
Functionary	10	2.8%	11	10.1%	3	7.1%	24	4.8%
I will not work in sports	19	5.4%	3	2.8%	1	2.4%	23	4.6%
Employed in a sports federation	16	4.6%	7	6.4%	0	0.0%	23	4.6%
Professional staff	16	4.6%	3	2.8%	2	4.8%	21	4.2%
Others	11	3.1%	3	2.8%	0	0.0%	14	2.8%
Commentator	6	1.7%	7	6.4%	0	0.0%	13	2.6%
Journalist	6	1.7%	1	0.9%	1	2.4%	8	1.6%
Physiotherapist	2	0.6%	1	0.9%	0	0.0%	3	0.6%
Sports psychologist	1	0.3%	1	0.9%	0	0.0%	2	0.4%
Total	351	100.0%	109	100.0%	42	100.0%	502	100.0%

Source: AHOS own survey, 2021

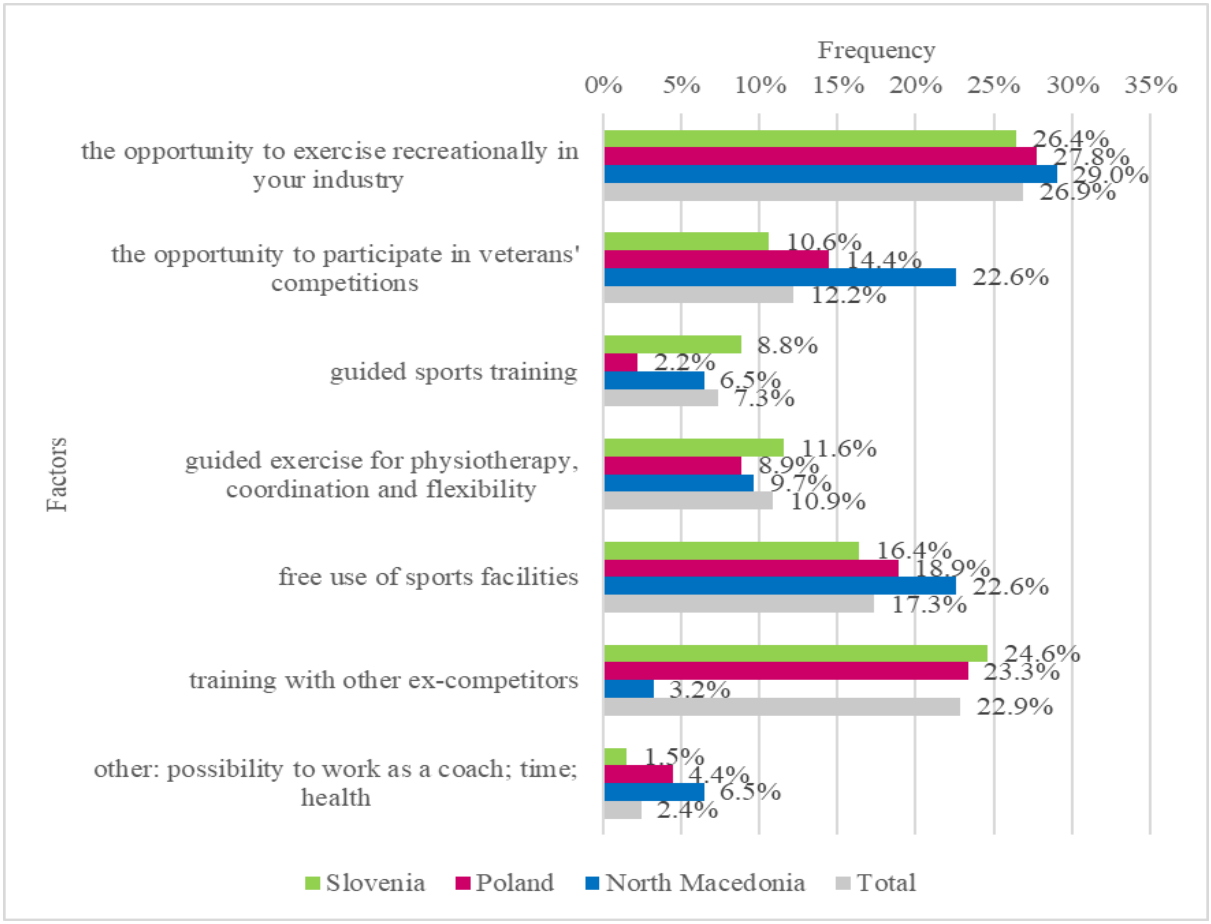


Chart: Factors influencing participation in physical activity after the end of a career.
Source: AHOS own survey, 2021

Table 8: Factors that are important for participation in sports activities.

Sub-questions	Slovenia N = 124		Poland N = 39		North Macedonia N = 20	
	M	SD	M	SD	M	SD
Proximity to the training site	3.4	1.0	3.2	1.5	3.1	1.5
Financial participation	3.2	1.1	2.9	1.2	3.1	0.9
Trained coach	3.1	1.4	2.8	1.4	3.7	1.5
Cleanliness of the training area	3.6	1.1	3.6	1.4	4.4	1.0
Access to facilities and parking	3.3	1.2	3.6	1.4	3.3	1.2
Availability of exercise equipment and supplies	3.8	1.0	3.6	1.4	4.1	1.1
Term (appropriate time of activity)	3.8	1.1	3.3	1.3	3.9	1.1
Regulated access by public transport	2.8	1.3	2.3	1.1	2.9	1.4
The presence of a famous person/athlete	2.0	1.1	2.2	1.0	3.0	1.1
Gender of the coach	1.5	1.0	1.8	1.0	2.1	1.6
Variety of exercise	3.4	1.1	3.6	1.4	4.0	1.0
Presence of medical staff/physiotherapist	2.5	1.2	2.5	1.1	3.5	1.3
Other: included acquaintances, teammates; adequate infrastructure: racetrack for road bikes	1.5	1.3	2.0	1.5	2.0	1.3

Source: AHOS own survey, 2021

RESULTS OF A SURVEY OF THE FEDERATIONS ON VETERANS' SPORT

To help answer the question of how we can encourage more veterans to participate in sport, we conducted a survey to gather information on how national federations support athletes after their careers are over. We sent an invitation to the addresses of the national federations in Slovenia in September 2021 and received responses from 18 federations.

When asked at what age athletes affiliated to each federation on average end their competitive sports career, we received a wide range of answers: from 14-15 years for girls and 20 years for men, to 50 years for both men and women. For men, the average age is below 30 years in half of the sports, for women in two thirds (Table). The average lower age limit for entry into veterans' competitions is 33.8 years in domestic competitions and 36.5 years in international competitions.

Table 9: Average age at the end of a sports career in different sports.

Age group	Men		Women	
	Frequency	Percent	Frequency	Percent
Till 20	2	14.3%	1	8.3%
From 20 to 29	5	35.7%	7	58.3%
From 30 to 39	3	21.4%	2	16.7%
From 40 to 49	2	14.3%	1	8.3%
50+	2	14.3%	1	8.3%
Total	14	100.0%	12	100.0%

Source: AHOS own survey. 2021

The most common reasons for leaving a sports career are study and employment. followed by financial reasons. and health reasons in third place. The first three most frequent answers are consistent with the answers given by the athletes in the survey.

Table 10: Reasons for ending a sports career.

Reasons	Frequency	Percent
Health reasons, injuries	6	12.2%
Decline in physical ability	1	2.0%
Overload with workouts	4	8.2%
Saturation	3	6.1%
Desire for other activities	4	8.2%
Family	5	10.2%
Study/employment	14	28.6%
Bad relationships in the sports environment (competitors / coach)	0	0.0%
Finance	10	20.4%
Others	2	4.1%
TOTAL	49	100.0%

Source: AHOS own survey. 2021

National sports federations in Slovenia most frequently organised competitions at international level followed by recreational training in local areas and competitions at national level.

Table 11: Organised sports activities for veterans.

Organized sports activities for veteran athletes	Frequency	Percent
Organized recreational exercise at the local level	11	19.3%
Organized competitions at the local level	8	14.0%
Organized competitions at the national level	9	15.8%
Organized competitions at the international level	12	21.1%
European Veterans Championship	6	10.5%
World Cup for Veterans	7	12.3%
Second: memorial tournament. veterans league. promotional events; revival appearances	4	7.0%
TotaL	57	100.0%

Source: AHOS own survey. 2021

We asked the federations how important veterans' sport is for the development of their branch. Almost two thirds of the federations chose slightly important. almost a quarter somewhat important and only 15% very important.

Table 12: The importance of veterans' sport for the development of the sector.

Answer	Frequency	Percent
1 (not relevant at all)	0	0.0%
2 (slightly important)	8	61.5%
3 (quite important)	3	23.1%
4 (very important)	2	15.4%
Total	13	100%
Mean		2.5
Standard deviation		0.8

Source: AHOS own survey. 2021

The most common incentives given to athletes after their competitive careers are the opportunity to participate in professional training and invitations to events followed by nominations for prizes and awards and inclusion in federation bodies.

Table 13: Incentives and support after the end of the competition career.

Answer	Frequency	Percent
Support for the integration of athletes after the end of their careers	4	4.8%
Education support	5	6.0%
Employment support	2	2.4%
Possibility of employment online	12	14.3%
Opportunity to participate in the management of sports activities	10	11.9%
The possibility of integration into the bodies of the federation	11	13.1%
The possibility of engaging in training for professional work in sport	11	13.1%
We invite them to events	10	11.9%
We nominate them for awards and recognitions	9	10.7%
We organize meetings and events with former competitors	3	3.6%
We organize exercise. to gradually reduce physical activity	7	8.3%
We organize sports and recreational exercises and/or competitions	0	0.0%
Total	84	100.0%

Source: AHOS own survey. 2021

After their careers are over. elite athletes are most often involved in sport as coaches in clubs/teams and as coaches experts or consultants in the national team. Many of them work as officials in sports associations.

Table 14: Top athletes' post-career involvement in sports development.

Types of integration	Frequency	Percent
Coaches in sports clubs	12	18.8%
Coaches, selectors, experts, national team advisers	11	17.2%
As ambassadors of the industry	6	9.4%
Referees	7	10.9%
Officials in sports clubs	9	14.1%
Officials (federal associations, international, local ...)	7	10.9%
Organizers of sports activities, events	7	10.9%
Sports managers	5	7.8%
Total	64	100.0%

Source: AHOS own survey. 2021

The most common answer regarding the organisation of competitions for veterans is the involvement of the national federation in international sports organisations and competitions for veterans.

Table 15: Competition activities for veterans.

Involvement in competitions for veterans	Frequency	Percent
Organise official competitions for veterans at national level	7	25.9%
We are affiliated to international associations and competitions for veterans	8	29.6%
Athletes participate in competitions abroad. we enter them in competitions	4	14.8%
Athletes enter international competitions on their own (outside the federation)	7	25.9%
Other:	1	3.7%
TOTAL	27	100.0%

Source: AHOS own survey. 2021

A MODEL FOR ENGAGING FORMER ELITE ATHLETES IN PHYSICAL ACTIVITIES

Physical activity is one of the most important factors, alongside a healthy diet, that people can use to influence their health at all ages.

The elite athletes who have brought us so much joy with their sport skills and successes need to be supported by both the sports organisations they represented and society in adapting to a new life situation after their careers have ended.

Some people are motivated enough to find suitable physical activities on their own, but most need support, encouragement, organised activities, and an invitation to take up regular activities after their sports career is over.

Sports clubs and organisations could play a very important role in encouraging former elite athletes to take care of their health.

Among the reasons for ending a sports career emerges that athletes often end their sports career due to injury, followed by work-related commitments and family commitments. This calls for more preventive activities to avoid injuries during the career and adequate care for the rehabilitation of injuries after the end of the sports career. The International Olympic Committee also recognises the importance of health promotion for athletes and, together with the World Olympians Association (WOA, 2021) and the International Federation of Sports Medicine, has designed a project in December 2021 to contribute to the long-term health benefits of Olympians and to promote healthy and active lifestyles and physical and mental health in their communities at all stages of their lives.

Most former surveyed athletes continue to play recreational sport in old age. Contrary to expectations, the support and cooperation that former elite athletes receive from their sports federations and the state after their sports careers are over, or as they get older, is minimal, if any. There is, however, self-initiated involvement in national and international competitions for seniors in selected sports.

The most common physical activities that former elite athletes engage in today after their sports careers are walking, running, hiking, cycling, volleyball, fitness, and martial arts. Among the preferences most frequently mentioned are dancing, volleyball, hiking, swimming, cycling and fitness, as well as therapeutic recreation. These activities are relatively consistent with the general guidelines for physical activity in the elder population.

Former athletes want to participate in competitions more than the general elder population.

The most important motivations for taking part in physical activity are health and well-being, good fitness level, relaxation, and fun, which should be taken into account when planning activities. Incentives for increased participation include accessibility and affordability of sports facilities, the variety of sports training on offer, professional guidance and socialising with former athletes.

Based on the results of the survey, where former elite athletes expressed their desire and expectations, and indicated their interests in physical activities after the end of their careers, we have developed recommendations for sports organisations that have a potential positive impact

on increasing the participation of former elite athletes in regular physical activities, and thus also a positive impact on the health of a specific group of people, and through them, the population at large, as they are a role model and a motivation for others.

In the future, it is necessary:

- To observe better the **transition from vigorous physical activity during elite sports career to** post-competitive regular physical activity for elite **female and male athletes.**
- **To pay more attention to education and training of specialists** that work in selected areas of recreational activities for elder people, including former elite athletes.
- **To make available relevant literature** in the field of sport and recreational activities for the elderly, including for associations, clubs and individuals involved in exercise.
- **To promote ways of organising physical activities for** former elite athletes of different qualities and **integrating activities for master athletes into regular activities of sports organisations.**
- **To develop a training model to** facilitate the planning and implementation of sport and recreational physical activities with former elite athletes.
- **To respect more the organisation of preferred sports activities by former elite-athletes** (hiking, running, volleyball, swimming and water activities, and dancing) and competitions at different levels.
- **To increase accessibility to sports facilities**, including through an appropriate pricing policy. Taking care of one's own health and well-being also saves money on health care costs.

We have grouped the recommendations into five thematic clusters:

1. **Involvement in the organisational and professional activities** of the sport branch, federation, or association (taking on different organisational functions, professional roles, developing competences for specific roles: referee, coach, delegate, etc.). Sport organisations should make efforts to encourage former elite athletes to participate in their sport and organisation after their competitive sports career. This way, they will keep in touch with sport, be involved in different activities, feel useful and, in fact, as sports workers, coaches, referees, be able to contribute to further development. This involvement can be in the local environment or at national level.

2. Connecting, engaging, and socialising (invitations to sports events, meetings of former and active athletes, annual sports, and social gatherings), sports organisations, organisers of major sports competitions and events, will involve former elite athletes by inviting them to events. They can be invited to planned competitive events or to events they organise for former athletes to socialise, educate, network, and provide support. Certainly, bringing former elite athletes together through mass or competitive events can be a means for successful reactivation and integration into sport and later into regular training programmes.

3. Health promotion (health maintenance, regular medical check-ups, consultation with a personal doctor or specialist before engaging in new forms of exercise, self-assessment apps and suggestions for action, awareness-raising about the importance of regular sports activity, advice on physical activity, nutrition, and other life challenges), as is the case for the general population, former elite athletes also need to take care of their health and well-being. Sport can enable them to do this and their prior knowledge of sport, sport disciplines, training methods, sports facilities is certainly an advantage. However, when planning training and activities, it is essential to bear in mind that the target group at stake are former elite athletes. It is characteristic

that they have performed at the highest possible level during their competitive career. Engaging in sporting activities at too high a level could pose a significant risk in a period of old age, reduced physical capacity, physical limitations, and possible health problems. Organisers of exercise programmes need to be aware of this and plan and monitor programmes accordingly.

4. Participation in physical activities: choosing the right sport and adapting the sporting activity and providing access to training and sports facilities (introducing and integrating new sports and activities, adapting equipment, rules, organising guided training and veterans' competitions), former elite athletes may not be able to play the sports in which they competed and performed at old age. In some cases, this means that they will still have to learn certain sports. Such a fact opens the possibility of a reluctance on the part of a former elite athlete to try out a sport in which he or she is not performing above average. The approach of learning new movements and performing new training activities can be time-consuming and may present resistance. A former elite athlete might prefer to be inactive for this reason, rather than being seen by some as a learner, whereas in the past he or she has been a national or even international hero in the field of sport.

5. Promotion of individuals and activities for master athletes (nomination for various sports awards, promotion of master's sport in the media).

The recommendations have different financial requirements; some are low-cost and rely only on the attention and goodwill of the organisations' representatives, while others require more financial resources.

RECOMMENDATIONS

Each recommendation is described in more detail below.

Area: **Involvement in the organisational and professional activities of a sport branch, federation, or association**
Title of Recommendation: INVITATION TO STAY AND WORK IN SPORT, TO TAKE OVER A ROLE IN A SPORT ASSOCIATION (ORGANISING EVENTS, COACHING...)
Description of the recommendation and guidelines for implementation: Follow up athletes after their careers have ended and maintain regular contact with them. Develop plans for active involvement in sports activities for athletes after their careers at federal level (opportunities to participate in training for 2 years after retirement, involvement to work in sport, organised competitions for veterans, promotion of athletes through awards and invitations to events). At the level of associations, organise recreational training, occasional meetings of former competitors, training matches with active (young) competitors, involvement of seniors in the work and events of the association, honorary membership, ambassadors, ... Provide training for coaches, referees, organisers. Premature ending of sporting careers due to work and study commitments can be avoided by adjustments to educational process or involvement in public administration during the career itself.
Purpose of the measure: To enable former athletes to remain active in the field of sport after their sports career at national and local level, or to enable athletes who are still active to adjust their educational process or to join the public service during their career.
Financial, time, human resources: Cooperation between the Olympic Committee and the federations should be established in order to provide funding for post-career training for athletes, thus ensuring the recruitment of new staff for the development of the sport and to obtain funding for their work. To provide financial support and adapt educational/employment opportunities for athletes while they are still active in the sport.
Intended impact: After their competitive sports career, former elite athletes use their rich experience and stay connected to their core activity, i.e., sports. By being actively involved and using their knowledge, they are motivators to recruit more younger people to be involved in sport.

Area: **Connecting, engaging, and socialising**
Title of recommendation: INVITATION TO PARTICIPATE IN DIFFERENT ROLES IN SPORTS EVENTS (VIP, GUEST, AMBASSADORS)
Description of the recommendation and orientations for implementation: Sports organisations (Olympic committee; National sport federations and Sport clubs) could invite their former members to their events and competitions. A list of elite athletes who have retired from competitive sport should be prepared (regularly updated) and ex-athletes should be invited to sport events at local and national level.

Purpose of the measure: Active involvement in the local community and participation in the national field, which for the athlete after the end of his/her career means social integration, social gatherings, and motivation to socialise (expanding the social network). Volunteering activities, to which active members can invite former athletes, are also welcome and appreciated.
Financial, time, staffing: in this case, there is a shortfall in income if you invite people to an event and they don't buy a ticket, which means no additional costs.
Intended impact: Improving the sense of belonging and mental health of former elite athletes.

Area: **Connecting, engaging, and socialising**
Recommendation title: THE DAY OF MASTER SPORT
Description of the recommendation and guidelines for implementation: Organisation of a sports and social meetings for former Olympians and Paralympians.
Purpose of the measure: Once a year, organised sports reunions between former teammates would be welcome.
Financial, time, human resources: To provide funds to organise a major event at least once a year (e.g., annual picnics with sports, New Year's Eve gatherings).
Intended impact: Maintaining social contacts, cohesion and strengthening mental health of former elite athletes.

Area: **Health promotion**
Title of the Recommendation: HEALTH ASSESSMENT BEFORE ENROLMENT IN PHYSICAL ACTIVITY
Description of the recommendation and guidelines for implementation: It is desirable that former athletes continue to have regular check-ups with occupational health specialists after their careers have ended. If this is not possible, they should at least have a discussion with their personal physician about their involvement and a basic health check-up (basic blood, urine, cholesterol, sugar and blood pressure) before starting a new activity. Athletes should have access to appropriate rehabilitation even after they have decided to end their sporting career. Every effort should be made to ensure that they are able to rehabilitate their injuries and have the opportunity to take part in activities that are appropriate to their state of health.
Purpose of the action: Preventive health care
Financial, time, staffing aspects: No additional financial requirements for a consultation with a personal physician; however, for a specialist examination, adequate funding would need to be provided at national level or at least two years after the end of the career.
Intended effect: Prevention of adverse effects of sporting activity resulting from over-exercise and adequate rehabilitation.

Area: **Health promotion**
Title of the Recommendation: APPLICATION FOR SELF-ASSESSMENT OF HEALTH STATUS AND PROPOSALS FOR PHYSICAL ACTIVITY
Description of the recommendation and guidelines for implementation: A computer programme that would output a health assessment and suggestions for improvement (training guidelines) according to the indicators based on the data (e.g. weight, height, waist circumference, SFT test battery results (Rikli & Jones, 2013)) entered by the former athlete.
Purpose of the action: To target appropriate activities (health and sport aspects)
Financial, time, human resources: The app, criteria and exercise suggestions need to be developed, the use of the app and the recommended activities need to be promoted. To promote this activity in the media twice a year (before the start of the summer and winter seasons) and to give examples of good experiences of well-known athletes after using the app.
Intended impact: Increase in regular participation in appropriate and personalised physical activities and consequent improvement in their health.

Area: **Health promotion**
Title of the Recommendation: ACCESS TO HEALTH IMPROVEMENT ADVISORY SERVICES, ADVISORY ON PHYSICAL ACTIVITY, NUTRITION AND OTHER LIFE CHALLENGES
Description of the recommendation and guidelines for implementation: The former elite athlete should be given the opportunity to consult individually with experts (possibly in the framework of the National Medical Sports Centres or the Regional Olympic Committee Offices) in different fields (doctor, sports medicine specialist, psychologist, healthy nutritionist, sports exercise expert for the elderly, veteran's exercise experts per sport).
Purpose of the action To provide former athletes with personalised advice on various problems they face after their careers, in maintaining their health and in engaging in physical activity.
Financial, time, human resources: It is necessary to obtain the cooperation of various experts and the resources to do the work.
Intended impact: Improved physical and mental health of former elite athletes and increased participation in regular sporting activities.

Area: **Involvement in physical activity**
Title of Recommendation: INVITATION TO PARTICIPATE IN ACTIVE REGULAR PHYSICAL ACTIVITY IN SPORTS ORGANISATIONS OF WHICH THEY WERE MEMBERS
Description of the recommendation and orientation for implementation: Sports organisations would make an important contribution to maintaining the health of former elite athletes through organized sports training for masters. It is recommended to contact athletes after their sports careers and invite them to become active in the sport they were involved in (e.g., as an invitation in the local media with the location, date, and time of the meeting), or to allow athletes from other disciplines to join the masters' training. The first meeting is a get-to-know-you meeting, where physical abilities, motives for exercise and general satisfaction should be checked. At mid-term review, physical ability, motivation and satisfaction are checked and progress monitored. It is important to reinforce group cohesion at the time of joining in order to create a positive group dynamic.
Purpose of the measure: To enable former athletes to actively participate and regularly exercise in the sport in which they used to participate in order to be physically active and to maintain their physical fitness and health.
Financial, time, staffing: Linking up with associations that can organise guided training and competitions (not only veterans, also with current cadet and youth teams), providing adequate equipment and financial support for training and competitions (tenders at local and national level).

Area: **Involvement in physical activity**
Title of recommendation: ACCESS TO SPORT INFRASTRUCTURE AND TRAINING
Description of the recommendation and guidelines for implementation: Former elite athletes should be given free access to training and sports facilities. At the local community level, the contact with athletes after their sports careers should be establish and the sports organisations and community should encourage them to become physically active. Check what sports activities they are interested in, invite sports organizations to involve masters' programs in their regular activities and encourage former athletes to take part. Former elite athletes have expressed sport and recreation preferences in AHOS survey, such as a desire to participate in dance, volleyball, hiking, swimming, cycling and fitness. They also expressed a desire for therapeutic recreation. Introduction of those activities could be helpful in the efforts to rise the engagement of former athletes.
Purpose of the measure: To enable former athletes to actively engage in their desired sporting activity with the aim of physical exercise and maintaining physical fitness.
Financial, time, human resources: Free access to exercise and existing sports infrastructure in the local area (e.g., sports card) linking up with associations providing organised exercise for the elderly and organising competitions.

Area: **Involvement in physical activity**
Title of Recommendation: SELECTING THE PROPER SPORT AND ADAPTING THE PHYSICAL ACTIVITY, ORGANISING THE ACTIVITY WITH PROFESSIONAL STAFF.
Description of the recommendation and guidelines for implementation: To enable athletes to exercise the sport activity they desire, considering their health abilities. Warm-up for injury prevention, the game or exercise itself and cool-down are important. Differences in the training of active and veteran athletes and in the training of elder veterans should be considered. Training should take place one to two times a week, adapted to physical abilities of the individuals (care should be taken to avoid injuries during training), with elements of reduced-activity exercises if necessary, and as an enjoyable social activity with elements of play, fun and relaxation. It is recommended for the exercise to last from 45 to a maximum of 90 minutes, consisting of a 10 to 20 minutes of warm-up, a 30 to 60 minutes of active exercise and a 5 to 10 minutes of cool-down and relaxation (exercise should be completed sooner rather than later). When there is no group exercise, an individual exercise programme is prepared for each person.
Purpose of the measure: To encourage former athletes to become motivated to become active in the field of sport.
Financial, time, human resources: Free provision of appropriate organised guided exercise.

Area: **Involvement in physical activity**
Recommendation title: ORGANISATION OF COMPETITIONS
Description of the recommendation and guidelines for implementation: Various friendly meetings and competitions, competitions between clubs and associations, at national and international level (e.g., national veterans' competitions, international competitions) are organised.
Purpose of the measure: The desire to compete can be a motivating factor to join a sporting activity. Veteran athletes are actively involved in the organisation of meetings and competitions, which can further act as a motivating factor.
Financial, time, human resources: To secure funding for the organisation of events and competitions at local, national, and international level (calls for tender at local and national level, liaison with OCs).

Area: **Promotion of individuals and activities for veterans**
Title of recommendation: PROMOTE INDIVIDUALS AND MASTER SPORT IN MEDIA AT LOCAL AND NATIONAL LEVEL
Description of the recommendation and guidelines for implementation: When sports organisations (OCs, federation, association) plan promotional activities and media cooperation, they should also include information on activities for veterans and emphasise the positive impact of regular activity on health. It is beneficial to build on good practice presentations: showcase well-known athletes who are regularly active (role models for others).
Purpose of the measure: To increase the involvement of former athletes in regular sports activities and to retain former top athletes in sports organisations as ambassadors, promoters, role models, etc.
Financial, time, staffing: If the promotional activities are part of other activities, there are no additional financial resources.
Anticipated impact: More former athletes who are regularly physically active.

Area: **Promotion of individuals and activities for masters** - Promotion of former elite athletes
Title of Recommendation: TO NOMINATE FORMER ELITE ATHLETES FOR DIFFERENT AWARDS AT LOCAL AND NATIONAL LEVEL
Description of the recommendation and guidelines for implementation: By nominating their members, sports organisations (OCs, federation, association) give recognition to individuals and increase the likelihood that they will engage in various physical activities or work in sport in different roles.
Purpose of the measure: To highlight and recognise the importance of the achievements of former athletes and to increase the chances of athlete retention in sports organisations.
Financial, time, staffing: Secure funding for the sports prize.
Intended impact: Increased sense of self-worth of the awardees, promotion of the sport, visibility of former athletes, potentially increased involvement in sports activities and sports organisations.

IDENTIFYING AND MONITORING MOTOR SKILLS

Before the initial exercise, it is necessary to measure your initial state of fitness.

To determine physical fitness, we use movement and functional tests that allow easy testing, such as the Fullerton Test Battery (Rikli & Jones, 1999a, b) or the Senior Fitness Test Manual - SFT (Rikli & Jones, 2013), which tests the functional fitness of elder people. Testing should be carried out before the initial exercise and again after a period. If exercise is performed for one season, for example from September to June, it is recommended to test halfway through the exercise period, but mandatory at the end of the exercise period, as repeated testing allows us to better monitor the progress of strengthening motor skills.

Tests are carried out based on the following test battery:

- Getting up from a chair for 30 seconds (testing leg strength),
- Balance on one leg with eyes open for 90 seconds (balance test),
- Weightlifting in a seated position for 30 seconds (biceps test),
- Sitting reach (lower body flexibility test),
- Touching hands on the back - scratch test (shoulder range of motion test),
- Get up and go (functional mobility testing),
- Walking for 6 minutes or walking for 9 minutes (general-aerobic endurance testing),
- Standing in place for 2 minutes (general-aerobic endurance test),
- Fist clench - measuring power with a dynamometer (grip strength testing).

Descriptions of how to carry out motor skills testing

Getting up from a chair - 30 seconds: the subject sits on a chair with a seat height of 43 cm with erected torso, arms crossed on the chest and hands on opposite shoulders. After the start signal, the subject straightens up to a standing position, extends the knees and then lowers into a sitting position on the chair. The number of correct repetitions performed by the subject in 30 seconds is measured. If the subject is in the righting phase at the end of the 30 seconds, the repetition is considered successful.

Photo: Personal archive

Balance on one leg with eyes open: the test subject stands sideways against a wall so that it can catch itself with its arms in case of balance loss. When ready, it lifts one lower limb of its choice off the floor and slightly bends it at the knee. The subject keeps its eyes open during the task. The time from the beginning of the task to the moment the subject touches the floor with

the lower limb flexed, or a maximum of 90 seconds, is measured. The result is measured to the nearest second. Three repetitions are measured and the average of the three results is taken as the final one.

Seated weightlifting: 30 seconds (biceps test): the subject sits on a chair with erected torso and feet flat on the floor. The side with the non-dominant upper limb is moved to the edge of the chair. With the dominant upper limb, grasp the arm in a handgrip position with a forked grip and the palms facing inwards, with the upper limb at right angles at the elbow and the upper arm fixed against the trunk, so that the subject lifts only the forearm. The amplitude of the movement is between 45 and 60 degrees. The arm-weight is 2.3 kg for women and 3.6 kg for men. The result is the number of repetitions correctly performed in 30 seconds. If the test subject performs more than half of the flexion in the last second, the measurement is considered successful.

Photo: Personal archive

Sitting reach: place a 43 cm high chair against the wall to prevent the chair from moving. The subject sits on the edge of the chair with one leg bent and one foot on the floor and the other leg extended with the heel on the floor, and the foot perpendicular to the shin. The subject extends the arms and places the palms on top of each other so that the fingers are overlapping. The subject brings the fingers close to the foot, with the back straight and the head upright. It holds the position for 2 seconds and performs 2 repetitions. Measure the distance to the nearest centimetre from the tip of the middle finger to the tip of the shoe. If the tips of the fingers touch the tip of the shoe, a value of 0 is recorded, if they are above the tip of the shoe, the measured value in centimetres is negative, if they are below the tip of the shoe, the measured value in centimetres is positive.

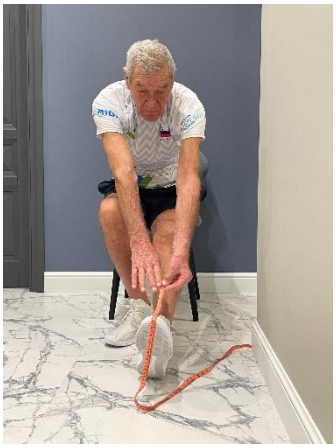


Photo: Personal archive

Back scratch - touching hands on the back: the subject stands with one upper limb flexed back from the neck towards the back, and with the other limb, approaches the flexed first upper limb from the back and tries to bring both hands as close as possible to the middle of the back with the middle fingers. Three repetitions are performed. The distance between the tips of the middle fingers is measured to the nearest centimetre. If the fingers are not touching, the result is negative, if the fingers are overlapping, the result is positive. If the fingers are touching, the result is zero. The average of the three results is the final one.

Photo: Personal archive

Get up and go: use a 43 cm high chair, anchored against the wall to prevent it from moving, and an upright bar placed 2.4 m away from the chair. To perform the task, the subject sits in the chair with erected torso, hands resting on the thighs, feet flat on the floor and one lower limb slightly in front of the other. After the start signal, the subject stands up and walks as quickly as possible to the bar, around it and back to the chair, where it sits to the initial position. The test is performed three times. The result is measured to the nearest 0.1 seconds from the start signal to the resumption of the sit. The average of the three results is the final one.

Photo: Personal archive

6-minute walk (or walk for 9 minutes): test walking in small groups. The test polygon is carefully marked and measured. The test subjects start walking around the markings after the start signal. They are instructed to walk as fast as they can according to their ability. They can stop or adjust their walking speed if necessary. During the course, we remind them of the

walking time to motivate them. The test takes 6 or 9 minutes. The result is the sum of all the laps walked plus the extra distance in the incomplete last lap, measured to the nearest metre.
2-minute Step test - stepping in place for 2 minutes: mark on the wall the height between the kneecap and the intestinal ridge. The test subject stands at the marked wall and steps in place for 2 minutes, bringing the knees up to the marked height. The subject may rest or hold on to the wall with one hand. The result is the number of times the right knee is raised to the indicated height.

Photo: Personal archive

Squeezing fists by dynamometer: Fist clench: The subject grasps the handle of the dynamometer with its dominant upper limb of its choice, then squeezes the handle to the maximum and maintains the clench until maximum muscle force. We use the Jamar Hydraulic Hand Dynamometer - 5030J1 (Sammons Preston, Providence, USA). The task is performed with three repetitions, with a short muscle relaxation break in between. The measured force of the subject is given in kilograms and recorded. The average of the three results is the final one.

In Slovenia, the National Institute of Public Health (NIJZ) (2015) published the Physical Fitness Test for the Elderly in the Health Promotion Module Implementation Manual, based on the original by Rikli & Jones (2013). The manual publishes the norms for each test for the Slovenian context: http://skupajzazdravje.nijz.si/media/test.telesne.pripravljenosti.za.starejse.pdf, the tests and norms described in the original are available on the website: https://books.google.si/books?id=NXfXxOFFOVwC&pg=PA11&hl=sl&source=gbs_toc_r&cad=3#v=onepage&q&f=false

The validation was carried out on the age group 60 to 94 years, with a total of 4262 active and 2261 inactive individuals.

Table 15: Senior fitness test – SFT. Means and Standard Deviations (in Parentheses) for Active Versus Inactive Older Adults.

	AGE GROUP							
Activity level	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85-89**	**90-94**	**Combined ages**
Group size (N - numerus)								
Active (N)	538	986	1130	847	425	235	101	4262
Inactive (N)	239	420	504	481	299	200	118	2261
Chair stand - g**etting up from a chair** – stands (SFT means and standard deviations)								
Active	15.6 (4.3)	14.7 (3.9)	14.0 (3.9)	13.6 (4.1)	12.3 (3.9)	11.3 (3.9)	10.5 (3.9)	13.9 (4.1)
Inactive	13.8 (3.9)	12.8 (3.6)	12.2 (3.6)	11.8 (3.7)	10.5 (4.2)	9.4 (4.0)	6.9 (4.7)	11.7 (4.1)
Arm curl - weightlifting sitting – reps (SFT means and standard deviations)								
Active	17.6 (4.7)	16.9 (4.9)	16.0 (4.8)	15.5 (4.5)	14.5 (4.2)	13.3 (3.8)	12.2 (3.5)	16.0 (4.6)
Inactive	15.7 (4.8)	14.9 (4.5)	14.1 (4.3)	13.4 (4.3)	12.9 (4.5)	11.8 (3.9)	10.4 (3.7)	13.7 (4.5)
6-minute walk – yds (SFT means and standard deviations)								
Active	638 (91)	607 (102)	588 (94)	551 (106)	524 (97)	485 (108)	427 (120)	576 (110)
Inactive	595 (95)	545 (113)	512 (109)	477 (123)	417 (130)	384 (147)	305 (127)	489 (138)
2-minute step test – **stepping in place for 2 minutes -** steps (SFT means and standard deviations)								
Active	100 (23)	98 (26)	92 (25)	92 (25)	85 (24)	78 (22)	78 (21)	93 (25)
Inactive	85 (23)	86 (24)	80 (25)	78 (24)	69 (23)	61 (19)	52 (21)	77 (25)
Chair sit-and-reach – in. (SFT means and standard deviations)								
Active	2.1 (4.2)	1.7 (4.0)	1.1 (4.0)	0.9 (4.1)	-0.1 (4.4)	-0.3 (4.2)	-1.6 (3.6)	1.1 (4.2)
Inactive	0.8 (4.2)	0.6 (4.1)	0.5 (4.0)	-0.1 (4.3)	-0.6 (4.2)	-1.0 (3.6)	-2.9 (4.6)	-0.0 (4.4)
Back scratch - touching hands on the back – in. (SFT means and standard deviations)								
Active	-1.2 (3.9)	-1.9 (4.3)	-2.2 (4.2)	-2.7 (4.4)	-3.1 (4.7)	-3.8 (4.8)	-4.6 (4.7)	-2.3 (4.4)
Inactive	-2.0 (4.3)	-2.6 (4.4)	-3.1 (4.5)	-4.0 (4.9)	-4.2 (4.9)	-5.2 (4.6)	-6.2 (5.4)	-3.6 (4.8)
Get up and go – sec (SFT means and standard deviations)								
Active	4.9 (1.1)	5.2 (1.1)	5.5 (1.3)	5.8 (1.4)	6.5 (1.6)	7.2 (2.0)	7.6 (1.9)	5.7 (1.5)
Inactive	5.4 (1.4)	5.8 (1.4)	6.3 (1.9)	6.8 (1.9)	7.6 (2.6)	8.3 (3.1)	10.1 (3.6)	6.7 (2.3)

Source: Rikli and Jones. 2013

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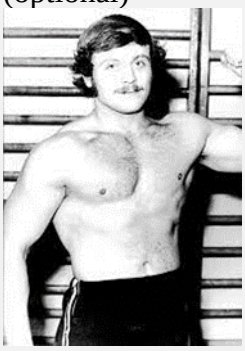
ANNEXES

ANNEX 1: EXAMPLES OF GOOD PRACTICE OF PHYSICAL ACTIVITIES OF FORMER ELITE ATHLETES

Theme	**ROLE MODEL: ACTIVE SENIOR ELITE EX-ATHLETE**
Title	**Marian Gryglas, from professional to recreational sport**
Country concerned	Poland
Summary  Photo: Personal archive	Marian Gryglas a Polish ex-elite athlete Paralympian weightlifter and ex-member of the Polish National Team in bench press. He won a bronze medal during the World Championship in Paris in 1983. As a junior athlete he trained weightlifting in Stoczniowiec Gdansk Sports Club. In 1978, he had an accident in which he lost his leg. After the recovery he quickly came back to full activity and sport without which he could not imagine his life. He won his first medal (bronze) in bench press five years after the accident (World Championship in Paris). After finishing his sports career, he was a weightlifting coach in a school sports club in Komarno for which he did not take any fee. Due to his health problems the Paralympian does not take part in competitions for veterans. Several times a week he works out in his own modestly equipped body building gym. His main motivation to do physical activity is to take care of his health and fitness, enhance muscle strength after the hip operation and improve his wellbeing. Because of his involvement and passion for recreational sport as a senior ex-athlete he sets a really good example for a lot of people to follow.
Additional information (optional)  Photo: Personal archive	Mr. Gryglas achieved great success in the international arena (he won 18 medals). He won the Polish Championship 20 times. During the Paralympic Games in Barcelona (1992) he was 6th in powerlifting. He retired in 2010. After finishing his sports career, he worked in sport as organiser and coach. Currently, one of his ex-athletes competes successfully in the international arena (Tomasz Kociubinski, 9th place in the World Championship). Marian Gryglas is a very good organizer. He has organized regional sports events called Podlasie Cup (in bench press and powerlifting), which was attended by competitors from all over the world. He has always enjoyed horse riding. In 1997 he and his wife set up a horse-riding centre called Gryglasówka. In 2012 he became the Master of horse tourism. Currently, he has 16 horses (Arab and Anglo-Arab horses) as well as horse carriages and sleighs. His two sons and a daughter are horse-riding instructors in their family-owned company. Gryglasówka is a well-known and recognized place. Its clients include people who want to learn horse riding professionally or those who wish to spend their leisure time using horse carriages or sleighs. Increasingly, people with physical disabilities come to his centre. His modesty. positive energy and a sense of humour cause him to be an inspiration for this group of people to change their lifestyle to a more active one.
Contact details for more information	Marian Gryglas: Maria Bilska

Theme	Elite ex-athlete
Title	**Olgierd Stanski, from professional to recreational sport and to further records**
Sub-title (optional)	Interview with an athlete
Name of the institution(s)	Polish Border Guard
Country concerned	Poland
Summary 	**Olgierd Stanski,** a Polish athlete, a discus thrower, an Olympian. He was the Polish champion three times (1999-2001), Polish vice-champion three times (2002,2004,2006) and a bronze medallist in 1996, 2003, 2005, 2008 and 2010. His personal best is 64.20 metres. He took part in the Universiade (World University Games) twice (1999 Palma de Mallorca and 2001 Beijing), where he finished 6th (61.04 metres and 60.16, respectively). He participated in the International Games three times (2000-2002). In 2000, he came first in the 1st League of the European Cup. He took part in the Super League of the European Cup twice (2001, Bremen, 4th place – 61.11 metres; 2002, Annecy, 3rd place – 60.88 metres). He is the participant of the European Championship in Munich (2002) and Olympic Games in Sydney (2000). After graduating from the University of Physical Education and Sport in Biala Podlaska, he got a job there as an assistant at the Department of Sports Theory. Since 2008, he has worked as an officer at the Polish Border Guard.
Additional information	***What is your motivation for training?*** *It is my lifestyle, and the result of my natural need for physical activity. For many years, I trained sport professionally; however, I have not concluded my sports career officially. I still want to keep fit and, at the same time, keep on training discus throw. I still own a competitor's license of the Polish Athletics Association and take part in the Polish Championships.* ***How often and where do you practise?*** *I do not have a coach, so I train by myself. Everything depends on my job duties and shifts. Usually, I train 4 to 6 times a week (each session lasts approx. 90 minutes). As a graduate of the University of Sport in Biala Podlaska, its ex-worker and ex-member of the university club, I can use all the sports facilities at the university (athletic stadium, indoor athletic hall, body building gym) for free.* ***Do You take part in competitions for veterans?*** *No, I do not, even though such competitions are organised by the Polish Athletic Association of Veterans. I think that there are too few elite ex-athletes participating in such events, so these are not high-level competitions. As an officer of the Polish Border Guard, I have been taking part in the World Police and Fire Games since 2011. A fluent transition from a career in professional sport is possible.* *In the World Police and Fire Games, I have won 21 medals in total in discus throw, shot put and hammer throw. My last great achievement in the World Police and Fire Games (2019, Chengdu,*

	China) was the gold medal in shot put and discus throw. My result in discus throw (50.28 metres) became a new Games record in Master B category (44 to 49 years). ***What can be done to involve ex-athletes in sport more?*** *First, more extensive promotion of sport for veterans as well as greater involvement of sports associations are necessary. It is important to enable ex-athletes to make use of sports facilities. They can practise without a coach, but training with other people in a group increases their motivation and involvement.* Mr. Stanski has performed several functions in sport (athlete, coach, PE teacher). As a hobby, he coaches a female discus thrower as well as his son, who regularly qualifies for the finals of the Polish Championships (he won the bronze medal in the Polish Junior Championships).
Contact details for more information	*maria.bilska@awf.edu.pl* *mariusz.buszta@awf.edu.pl*

Theme	*Elite ex-athlete*
Title	***From professional to recreational sport***
Sub-title (optional)	Slalom through life – from the point of view of an athlete, coach, and a doctor
Name of the institution(s)	Jagiellonian University, Collegium Medicum, Faculty of Medicine
Country concerned	Poland
Summary  Photo: Personal archive	Wojciech Gawronski, elite ex-athlete, Polish slalom canoeist, Olympian, ex member of the Polish national team in canoe slalom. He took part in the World Championships five times. In 1973, he won the first ever bronze medal in K-1 for the Polish team in Switzerland. In the same year as well as at 1975 World Championship, he won silver medals, and in 1975 he also won the bronze medal in K-1x3. In 1972, he took part in the Olympic Games in Munich. He retired from international sport in 1979. In 1976, he graduated from the University of Physical Education in Warsaw, and then, in 1984, he completed his studies at the Faculty of Medicine, Medical Academy in Krakow. He is a doctor, a specialist in sports medicine and medical rehabilitation. His wife is a doctor (specialist neonatologist); he has two children: a daughter (specialist radiologist) and a son (graduate of the University of Economics).
Additional information	Wojciech Gawronski lives in Nowy Sacz, Poland. Since 1984 he has been working at the University of Physical Education in Krakow, at the Department of Sports Medicine. In the years 1989 to 1992, he worked as a coach of the national team in canoe slalom and prepared his athletes for the 1992 Olympic Games in Barcelona. After finishing his coaching career, he was employed in Krka pharmaceutical company (1992 to 1998). During this period, he learned managerial skills, which he later used when organising scientific symposia as well as in his social activity. He organised

	international symposia 'Medicina Sportiva' in the years 1996 to 2008 and national symposia 'Medicina Sportiva Practica' in the years 2000 to2015. He founded scientific journals titled as above. In Medicina Sportiva, he was the Deputy Editor-in-Chief, while in Medicina Sportiva Practica he is the Editor-in-Chief. Moreover, for a number of years, he was a member of the Polish Association of Sports Medicine and was the vice-president of this organisation in the years 1999 to 2009. During this period, he obtained a Ph.D. degree in the field of physical culture (1994). The title of his dissertation was 'Analysis of physiological and biochemical changes in a yearly training cycle of slalom canoeists'. At the beginning of the 21st century, he set up sports medicine centres in Nowy Sacz and Krakow. In 2000, he became the doctor of the Polish national team of Paralympic skiers. As a doctor, he went to Paralympic Games in Turin, Vancouver and Sochi. He was also the chief of the medical mission at the Paralympic Games in Beijing and London. In 2012, he began working at Jagiellonian University, where he has been working ever since. He teaches, among other things, sports medicine, or medicine of sports activity, and he combines theory and practice through supervising the sports medicine centre at the University Hospital. Throughout this time, he has also worked at the University of Physical Education and at Jagiellonian University.
•***Interview:***	***What has been your motivation for practice, training, and competitions?*** *Since childhood, I have been physically active and wanted to follow in the footsteps of well-known athletes. I was inspired to take up training by the book which I got from my brother-in-law, titled 'A Road to Tokyo'. I was first fascinated with Alpine skiing. In 1968, my brother-in-law took me to a canoeing camp of the club in which he was a coach. It was then that I learnt to canoe. In 1969, canoeing (canoe slalom) became an alternative to skiing. My friend took me to the club 'Dunajec' – the club where my friend had just begun supervising the canoeing team. It is worth mentioning that the team was first established by Antoni Kurcz, who later became the coach of the national Olympic team in Munich. I was inspired by the coach's charisma, so I took up professional training that led to my participation in the Olympic Games (OG) and World Championships (WC).* ***How often did you train?*** *When preparing for the OG and WC, I trained every day; during camps, I practised twice or even three times a day. After retiring from professional sport, I was still physically active. I still practised canoeing, but also cycling and cross-country skiing. The most difficult period in terms of physical activity was the time when I studied medicine, first years after setting up a family and periods when I obtained successive degrees of medical specialisation. However, I did my best to exercise at the weekends. It was also*

	difficult to do sports regularly when I was the coach of the national team. My social activity at GOPR (Mountain Volunteer Rescue Service) and physical activity connected with it allowed me to maintain my fitness at a decent level. Currently, being over 60, I do sports 3 to 4 times a week. A day without physical activity is a day wasted. I call my training 'intuitive', which means I do sports which I feel like doing, respectively the weather conditions. My physical activity is based on various outdoor sports, i.e., mountain biking, cycling, swimming, canoe slalom as well as downhill skiing, ski touring and cross-country skiing. If the weather conditions are unfavourable, I work out on an ergometer. ***Where do you practice? Do you have any special conditions for it? Is your training program financed?*** *I do sports mainly in Nowy Sacz and close to it. I make use of the mountains, a lake, and a river. I live 300 metres away from the river. In Krakow I usually use a bike or an ergometer. I cover all the costs connected with my training on my own.* ***How is your training organised?*** *I prefer to do sports by myself. Sometimes, I train together with my friends, with whom I competed professionally. However, our training together does not have elements of competition. I also like skiing, cycling or ski touring with my adult children.* ***How are veteran competitions organised in Poland and internationally?*** *When it comes to canoe slalom, veteran competitions are usually organised together with competitions for young canoeists (youth category). There are also Polish Championships for veterans in different age groups; however, I rarely take part in those. Still, I won several gold medals in those championships. Similarly, I won medals in 2017 World Masters Games in New Zealand and 2019 European Masters Games in Italy. I took part in all those competitions without any external financial support.* ***What else should be done to make veteran athletics even more diversified and more engaging?*** *Sports clubs and associations should not lose touch with their former competitors. Meetings of ex-athletes should not only be social occasions but also should provide an opportunity to spend time together performing and promoting physical activity. As well as sports associations, a particular role in the life of athletes just after retiring from sport should be played by the Polish Olympic Committee and Polish Paralympic Committee. These organisations should help ex-athletes through the transition process from professional sport to health-oriented physical activity. It can be done by organising meetings aimed at increasing their health awareness. Moreover, athletes whose health deteriorated due to their sports activity should be taken care of, and they should be helped with the*

	organisation of medical treatment and rehabilitation. Founded in 1991, the Polish Olympians Association, which is a nationwide association of physical culture, and which is a statutory body of the Polish Olympic Committee and the World Olympians Association, aims, among other things, to provide financial and health support to those Olympians and Paralympians who need it. Still, the organisation should put more emphasis on health promotion and prevention of lifestyle diseases among all ex-athletes. ***What do you consider should be the main guidelines for former elite athletes to be active in sports?*** *Everything depends on habits formed throughout their career. The moment of retiring as well as its reasons are particularly important. Often, the reason is the lack of further success, health problems, or a disagreement with the club or the association. A sudden withdrawal from physical activity is not beneficial to the body; what is more, a sedentary lifestyle adopted after the retirement may be dangerous to an athlete's health. Therefore, ex-Olympians can often be shown as good role models during meetings or conferences; together with medical justification, they may motivate other ex-athletes to remain physically active at a level adjusted to their age. In addition, ex-athletes should often change the perception of sports performance after their career is over. The score, result, victory, etc., should not be important at this point, but health and satisfaction. In my opinion, to be optimally fit it is necessary to be physically active for one hour a day. Physical effort should mainly involve endurance-related activities. Obviously, the cheapest form of physical activity is running, yet we have a lot of other natural forms of activity to choose from, e.g., energetic walking, jogging, Nordic walking, cycling, cross-country skiing, swimming, or rowing. Such training should be regular (3 to 4 times a week) and performed regardless of weather conditions. When it comes to Masters' Competitions, no special extra preparations should be made. However, the main condition is that you have to be physically active and retain sport-specific skills.* *The programme of training must be adjusted to age, physical fitness levels and health problems that a person might have. Therefore, an ex-athlete should remember to regularly do their medical check-up examinations. Currently, it is quite easy in Poland as every citizen can undergo adequate diagnostic examinations after filling in a special form, because in July 2021, a new health programme named Prevention 40+ was introduced aiming at every citizen over 40 years of age. So, every ex-athlete over 40 should use this programme, and then analyse the results with a family doctor or a sports doctor who will suggest a health-oriented 'prescription'. It must be remembered that at the age beyond 40, the results are less important than the participation itself, as promoted by Pierre de Coubertin. A good indication of an ex-athlete's goal should be satisfactory boundaries of positive health indices such as aerobic capacity, blood pressure, blood lipid profile and self-satisfaction during age-related competitions.*

	All my life I have been performing some forms of physical activity. During my childhood, it stemmed from the need to learn to ride a bike, ski, canoe as well as to do athletics and play team games. Afterwards, throughout my sports career until now, I have been performing physical activities resulting from my internal need to exercise. Mr Wojciech Gawronski has held a lot of different positions. He was an elite athlete, an Olympian, a national team coach, a doctor of the Olympian and Paralympian mission. His active and health-oriented lifestyle after his sports career may serve as an example not only to senior athletes but also to all those who want to keep fit and be healthy for many years to come.
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Theme	**ROLE MODEL: ACTIVE SENIOR, ELITE EX-ATHLETE**
Title	**Vladimir Bogoevski**
Country concerned	North Macedonia
Summary  Photo: Personal archive	Vladimir Bogoevski (born 1 December 1953) was a Yugoslav volleyball player from Skopje, North Macedonia. He competed for Yugoslavia in the volleyball men's tournament at the 1980 Summer Olympics. He successfully graduated from the Faculty of Physical Education in Skopje and the Higher coaching school in Croatia and consequently became a top coach in Yugoslavia, Chairman of the MOC Fair Play Commission, Chairman of the MOC Sports Commission for All, Member of the Board of Directors, and the Assembly of the MOC and MOC Sports Director. His sports career as volleyball player began in the UK Vardar from Skopje in 1968. His debut in the first team of OK Vardar was 1971 and he was member of the first team of Vardar until 1980, being team Captain from 1977 to 1980. He was member of the Junior national team of Yugoslavia in 1972 and 1973, Senior national team player of Yugoslavia from 1972 to 1981, Captain of the national team - junior 1973 and senior from 1976 to 1981 with 257 appearances for the National Team of Yugoslavia. In 1979 he became assistant coach at Vardar, from 1985/86 until 1991/92 he was the coach of the national team of Yugoslavia.
Additional information (optional) ***Interview***	***The introductory part shows all the data about your sports career, as well as your professional career. How do you spend your free time, although given you are still active and current professional career as the MOC Director you have a lot of engagements?*** *Yes, I am quite active in my work-related engagements as an MOC director, but I use every free moment to dedicate myself to recreation and to take part in improving my psycho-physical form.*

	I can notice that you are in a great physical shape, and you radiate a positive and motivating energy. What kind of physical activity do you do in your free time? *Running and exercising on the shores along the quay of the river Vardar, a good game of tennis with friends. And at home I use a stepper and work with weights. I would separate these activities because I often practice them.* ***You are a great example for others through your involvement in many organized tournaments, seminars, as well as support for many actions related to sports and proper healthy lifestyle for both younger and older generation of former athletes/veterans.*** ***What would be your message for the end of this interview, with the aim of improving your life and your own health?*** *Physical activity improves the psycho-physical, mental, and spiritual health, not only of former athletes, but also of the entire population. We should be an example to all people that with physical activity we extend our lifespan, and thus improve the quality of life. In healthy body healthy mind...*
Contact details for more information	Katarina Ivanović

Theme	**ROLE MODEL: ACTIVE SENIOR, ELITE EX-ATHLETE**
Title	Dušan Prezelj, Veteran world record holder
Sub-title (optional)	Interview with an athlete
Country concerned	Slovenia
Summary	Dušan Prezelj. elite ex-athlete. competes in Light Athletics in category 70+, has won numerous medals from the biggest veteran competitions and became world record holder in 2020 in high jumping (M70). With his involvement in sport as senior athletes and organiser, he is a very positive role model.
Additional information (optional)  Photo: personal archive	**Interview:** **What is your motivation for practice, training, and competitions?** *Above all, lifestyle, and awareness of the importance of movement for life, a healthy mind in a healthy body. I grew up in a family of athletes. The whole family lived with sports. My upbringing and way of life taught me to live with sports. Athletics is suitable for all ages, where you can choose a sport, according to your wishes, needs and abilities, and perform the activity yourself. I have been an active athlete all my life, but I have never been a professional.* **How often do you train? Do you train also other disciplines?** *As a young man, I was a record holder in high jump and triple jump and trained almost every day, and at the end of my sports career I train 1 to 2 times a week. After retiring, I started competing in European and World Veterans Championships (category 65+). I now train 3 to 4 times a week, various disciplines (high jump. running. tennis). I adjust my workout and load according to my*

	abilities. I train alone. without a coach, and my wife also helps me train. **Where do you practice? Do you have any special conditions for it? Is your program co-financed?** *I train mainly in Kranj at the home stadium and 1 to 2 weeks also in Ljubljana, where I hang out with other veterans. I do not pay for training (1 hour of free training per week is provided by AK Kranj).* **How is your training organized? Is it offered by the association? Do you have a coach? Any other support? Counselling? Help in carrying out trainings?** *I am the president of the Athletic Association in Kranj, where I also do most of my trainings. There is one professionally employed coach co-financed by the state and 8 part-time coaches. I train alone, without additional help. I also go to all competitions with my own funding.* **How is veteran athletics organized in Slovenia and internationally?** *In the past, there was much more attention in Slovenia for veterans in the field of athletics. The athletics stadium is especially suitable for young people and those who started doing sports at an early age, as "sports retirement" in this sport begins very early (approx. at the age of 35). That is why there are many recreationists and veterans in this sport. There is a problem of dislocation, as some cities have a much greater understanding for veteran athletes than others (especially Celje). In Slovenia, veterans organize the Balkan Games. We want and, of course, expect greater support from the Athletics Association of Slovenia.* *At the international level, the European Veteran Athletics is organized, at the global level this field is more a private initiative.* **What more should be done to make veteran athletics even more diversified and more engaging?** *The national sports program and the annual work plan envisage and include veteran sports, but that is just ink on paper. Greater promotion of sports veterans would be needed. We want more people to do sports. Breaking taboos - people cannot find their way to the stadium. Co-financing exercise would prevent injuries and achieve better results.* **What do you consider should be the main guidelines for former top athletes to be active in sports?** *In my life I was involved in many different roles in sports (athlete, coach, worker in sports…) so joy in sports activities, making it a way of life, and above all socializing, cross-generation cooperation.*
Contact details for more information	Katja Špegelj

Theme	**ROLE MODEL: ACTIVE SENIOR, ELITE EX-ATHLETE**
Title	Adi Urnaut
Sub-title (optional)	Interview with an athlete
Country concerned	Slovenia
Summary	Adi (Adolf) Urnaut is a former volleyball player and coach. He started his sport career in alpine skiing and cross-country skiing. Then he played handball and volleyball. He made his debut for the Yugoslav national youth team in 1957 and then played for the Yugoslav national team for a decade (1959-1971). In a total of 320 matches and international tournaments, he won three gold medals at the Mediterranean Games (1963, 1965 and 1967), a bronze at the Universiade (1965) and was captain of the national team from 1967 to 1971. He played three times in the World Championship (1962 in Moscow, 1966 in Prague and 1970 in Sofia). Adi Urnaut was several times named the best player of the team and the tournament. He started his club sports career at the Fužinar Volleyball Club, played for Maribor Branik for a while, also as a guest for Zagreb Mladost and Belgrade Železničar, and finished his active volleyball career at OK Kvarner in Rijeka, where he started working as a coach. He worked as professor of sports education in different schools and faculties. He was a coach for more than 40 years and is still a coach of a sitting volleyball club.
Additional information (optional)  Photo: Personal archive	***What sporting activities did you do when you were young?*** *I was involved in sport as a young primary school student. I loved cross-country skiing, handball, and volleyball. Later I decided to make volleyball my prime sport, I did not choose winter sports because I was always quite cold, and in handball I did not like too much the direct contact between the players, so I chose a sport where indirect contact between the players prevails."* ***How were you involved in sport in the past and how are you involved today? Are there any differences and if so, what are they?*** *Sport is the main thread in my life. I have been involved in sport ever since I can remember: first as a competitor, then as a coach of volleyball teams. I also took up the challenge of coaching a sitting volleyball team and founded a women's sitting volleyball team with the help of my wife Anita. This team already won a bronze medal at the European Championship in Ljubljana. I have been involved in disability sport, specifically sitting volleyball, for more than 20 years. As a coach I have been present at three Paralympic Games and six European Championships, where the team also earned the title of the European champion, and the volleyball players have won a total of 11 medals (from European and World competitions). After the London Paralympics, I decided to retire from coaching and later accepted the role of coach of the Slovenian Volleyball Veterans, a position I hold ever since. With this team, we won the third place at the unofficial European Veterans Championship in the Czech Republic two years ago, and this year we won the second place at the official European Championship in Spain.*

	I have passed on the basics of the sport and work habits to my children, all three of whom have also followed in my footsteps in elite sport. Sport has been with the me even in my late adulthood, because if you do not take care of yourself, no one else will. *I currently cycle recreationally on an electric bike, play tennis 2 to 3 times a week with my peers, and walk with friends and my wife are often on the agenda. I also currently watch sport as a fan at matches, especially when my sons are on the court. I am also involved with the whole Urnaut family in the preparation and running of the Volleyball Camp for children.* ***What does sport mean to you and why?*** *Every person has an ambition in life and wants to achieve something, and for me that ambition is sport.* *I grew up in Ravne, where I was "thrown" into learning to become a metallurgist, but I was not attracted to this profession. Our interlocutor pointed out that I was lucky to live in such a place (Ravne), a relatively small place, where there are plenty of opportunities for various sports activities: from skiing, swimming, to football. The accessibility to gyms was also an advantage, as I could go to handball practice, skiing, or volleyball on my own. I preferred that to sitting down with a book and studying. Volleyball was the springboard for me to get into the Faculty of Sport in Ljubljana as a junior national player, and my bond with sport became even stronger. Basically, my whole life is sport!* ***How important do you think recreation is in late adulthood and why?*** *It is certainly a topic that is still under-discussed and under-emphasised. Recreational activities are not only for top athletes but also for the general population. Recreation is, of course, up to the individual. Everywhere in Slovenia one sees many elderly people on bicycles, jogging, hiking, etc., which means that people are aware that their longevity and quality of life also depends on the activity that an individual devotes to their body, as the ageing process can also lead to other health problems such as atrophy and osteoporosis. It seems to me that Slovenia is at the top when it comes to citizens' recreational activity. At the same time, I would like to see more being done and organised for former elite athletes.* ***What challenges or differences did you notice in sitting versus standing volleyball?*** *The first challenge was the fact that sitting volleyball is essentially volleyball, but different. The elements of the game are of course almost the same, but the situation and the conditions in which the player moves around the court are extremely different. The very function of the hands in the game is different, as they are used to bounce the ball and move around the court. I was most impressed by the players and their will, desire, and commitment to training and to*

	the sport, but I was also surprised by their independence. I was embarrassed at the beginning because I wanted to help them, but my help was superfluous. This is a sport for people who have something very big in their hearts and want to achieve something. ***What is the most important message you would like to pass on?*** *As long as you can walk, be active and do something for yourself, just do it. Because if you wait for others to help you, they will probably help you when you are already in a wheelchair. Everyone wants the best for their body, not just ex-athletes, but everyone. That's why it's important to be active and enjoy it because sport is not just fuel for the body, it is also about socialising and meeting your fellow human beings. Recreation is also about company, about a team, about encouraging each other. I want this to be the guiding principle that encourages everyone to be active and to take care of their bodies and their health, so do something for yourself, do not wait for others to help you.*
Contact details for more information	Hana Kerin in Noel Piščanc

Theme	**ROLE MODEL: ACTIVE SENIOR, ELITE EX-ATHLETE**
Title	Marta Bon
Sub-title (optional)	Interview with an athlete
Country concerned	Slovenia
Summary	Marta Bon is a handball expert with a rich playing and coaching career. She is employed at the Faculty of Sport at the University of Ljubljana, where she is a professor of handball and sport management. She is active in several international federations. In addition to all her other functions, she is also the Chairperson of the Olympic Committee for Gender Equality in Sport.
Additional information (optional) **Interview:**	***How were you involved in sport in the past and how are you involved today?*** *I used to be very active, playing handball professionally. I started my career at HC Krka, then I played for HC Olimpija and later for HC Krim, where I changed my role from player to coach. I continued my career as a coach at the top level. My involvement in sport today, however, is slightly different. I am involved in sport through my profession – I am a professor at the Faculty of Sport, where I mainly train students. However, my own recreation is also very important to me. I like walking, running, skiing, dancing, swimming, playing tennis, volleyball, beach volleyball and golf. I also learn about sport in a different way through my children.* ***Why did you choose handball as your sport?*** *I did not have much choice and it was more by chance. A teacher who taught handball came to my primary school, so I joined the training. Because I was good at it and because the others saw potential in me, I was then invited to continue at higher levels. If I had not chosen handball, I would have chosen another team sport anyway, not an individual one. Everything in life happens in teams,*

	which is why team sports are so dear to my heart. In these sports you learn to share, to contribute to the team, others do something for you, you do something for others, and you learn to adapt. It is the richness of receiving and giving. Sport is so important for life. It is like a kind of school for life. Especially in the area where you learn how to communicate and how to stand up for yourself. If someone asks me if handball is rough my answer is handball is rough, but what is life really like? ***What does sport mean to you and why?*** *Sport plays a very important role in society; it is a school for life. Especially in the field of psychosocial adjustment, status building and fitting into a certain group. Sport for all and sport for health are important concepts. All sport is sport for health because there is no such thing as sport for "unhealth". An important aspect of this is the mental health of the individual. This is also important for elite athletes. However, the mental health aspect is often neglected. Sport plays a big role on an individual and societal level.* ***How important is recreation in late adulthood?*** *I consider it very important. The trend is turning, and more and more people are becoming aware of the importance of recreation for physical health. I always smile when I see groups of elderly people exercising and socialising in parks. I feel it is important that elder people have exercise adapted to their abilities, but the safety aspect, which is very important, especially in old age also needs to be taken into consideration. The body and mind are connected, so if we want to have a quality and vital old age, we need to start as early as possible. I would suggest strength training.* ***What were the best moments in your career?*** *The 2008 World Handball Championship, where I and my team achieved the best result for the Slovenian national team, 8th place. I am increasingly aware of the importance and relives the feelings of the victory we achieved. The strong feelings of happiness when you do something, when you win, when all the training and adjustments are rewarded and when all those responsible for these successes rejoice together. It is also important to make the whole country happy. In my career, it is the small victories that matter.* ***What is the most important message you would like to pass on?*** *As many people as possible should be involved in sport. Sport should continue to unite in different areas, and it should continue to be recognised as an important part of the country. Everyone should take care of their health. I would recommend strengthening the stabilisers of the trunk, because that is how you influence your posture, which you show to the outside world. If you have the right posture, you can also stand up for yourself. Finally, sport should make young and old happy.*
Contact details for more information	Hana Kerin in Noel Piščanc

Theme	**ROLE MODEL: ACTIVE SENIOR, ELITE EX-ATHLETE**
Title	Dragica Lapornik
Sub-title (optional)	Interview with a Paralympic athlete
Country concerned	Slovenia
Summary	Dragica Lapornik, participated in 3 times in paralympic games in Athletics and won 2 bronze medals in (Sydney 2000 and Barcelona 1992).
Additional information (optional) ***Interwiev***	***1. Can you briefly introduce yourself (schooling, education, leisure, etc.)?*** *I was born in Celje and lived in the Kozjansko region. There were 5 children in my family, and I had the misfortune to suffer from polio when I was 4 years old. I became a paraplegic. Frequent visits to hospitals and institutions followed. I finished primary school in Kamnik (former training institute for disabled youth), then went on to vocational school where I gained the occupation of a watchmaker. After graduating there were no jobs adapted for people with disabilities, and I did not have enough finances to start my own trade. I got a job in another sector, and then, in addition to my work, I continued my education. I enrolled into a college of statistics (data processing), which I successfully completed. I got a job at the Paraplegic Association, where I gained a lot of different skills. My last job was in accounting, and then I retired due to my disability. I spent my youth in an institution, so in my spare time I was involved in the activities that were offered there (table tennis, sitting volleyball). It was also there that I started doing sport; I was most interested in athletics, especially the shot put, javelin and discus. I must add that athletics is hard work. You have to work on muscular strength, that is, lifting weights, as well as on your fitness.* ***2. Which sports have you played in your life? When did you start? How long have you been doing it? Which competitions did you take part in and how did you prepare for them?*** *I started athletics in my teens (at the age of 18) when I was studying in Kamnik. I was very good at athletics, so I continued to do it until I was quite of age. I took part in many competitions, so I will just mention the main three, namely the European Championships, the World Championships every two years and the Paralympic Games every four years. I would like to point out that my favourite Olympics were the Barcelona Games, when we disabled people competed for the first time in the same venue as able-bodied Olympians, with only a one-month delay. I had been to the Paralympics before and won a medal, but that Olympics did not mean nearly as much to me as the Barcelona one. This Games were the most beautiful and the most enjoyable of my life. In Barcelona, we slept in the Olympic Village and had an organised transport. The preparation was all year round (strength and conditioning training), and the training was even more intense before the Games themselves. At that time, we did not have our own coaches and finances, or extra special help with transport, with taking care of equipment and tools, but we managed anyway, everyone took care of themselves. It*

	takes a lot of time to get in the chair by yourself, to throw, to go and get the tools, etc. The way of doing the competition has also changed over time; at first, we threw the tools without the aids, but later they added the handles for support. As a result, you could exert more force on the tool. In addition, at the beginning the chairs were standard, but later we got specific, adapted chairs that allowed you to be a bit taller. This also had an impact on the longer throw. I would like to point out here that the throwing position had to be adapted for each person individually. Depending on the diagnosis and the abilities, we also got competition cards which laid down different rules. For paraplegics, the rule was that we had to put ourselves in the chair, while tetraplegics were lifted. ***3. Could you give an overview of your training. How many hours a day did you do this? What did you find most challenging? Did you ever get injured during your training?*** *The training is mainly for strength and conditioning. The training consists of throwing the javelin, discus and shot put, as well as riding the trolley. The tracks are either 200 metres or 1500 metres long. At the beginning I trained alone, but we had tests to see how we were progressing. We had 14 days of preparation where there were coaches. In the beginning it was more improvised, everyone had to finance themselves. Later, we got coaches to train with, and then the finances were sorted out. The whole training sessions lasted several hours if you include all the preparation. I also trained at home; I made a discus, threw it and picked it up myself. I trained with a coach twice a week. The hardest thing for me in this sport was to figure out which position would give you the maximum throw. I have to admit that I did not get injured while training, but recently I have developed scoliosis, but I cannot attribute it 100% to the sport.* ***4. What are your training sessions like now, what do you focus on most (exercises for muscular strength, endurance, balance, flexibility)? How do you spend your free time, what do you do recreationally?*** *I do not do sports anymore, I finished after the Sydney Games. Since then, I have been exercising and working out at home by myself. So, I do stretch and flexibility exercises, I also use elastic (for strength), weights up to about half a kilo, and I have a hanging bar. I stretch the parts of the body that I can, so arms, torso, and the rest. In my old age I also started cycling recreationally. I have a hand-bike. I also look after myself, as I do not have an assistant. I would like to be able to look after myself for as long as possible.* ***5. What does it mean to you to train in this sport?*** *I have been in constant movement and among people while doing the sport, and I have travelled a lot because of it, I have seen a lot of interesting places. I also have an advantage over my peers in terms of strength and physique. I feel like I was made for the ball*

	because I was very strong. I also picked up work habits during my training and made a few friends during this time, but time and distance somehow separated us. ***6. What is the most important message you would like to pass on?*** *The most important thing for me is to stress that everyone has a chance to start, even if it is the smallest one. Until someone notices you, it is very difficult. But once you are noticed and you are in the system, it is much easier. If I were born again, I would follow the same path, but a more difficult one. I would put even more effort into my work. I recommend that everyone should try a sport, because it is the only way to get exercise, socialise and, last but not least, stay healthy.*
Contact details for more information	Eva Bernik in Lea Šavs.

ANNEX 2: EXAMPLES OF GOOD PRACTICE OF SUPPORT FOR PHYSICAL ACTIVITIES OF FORMER ELITE ATHLETES

Theme	**SUPPORT FOR ELITE EX-ATHLETES**
Title	Sport card for free entrance in sport facilities for elite ex-athletes
Sub-title (optional)	Action: Free access to sport facilities
Name of the institution(s)	Local community Ravne na Koroškem
Country concerned	SI-Slovenia
Summary	The local community and their major decide to provide free access to sport facilities for elite-athletes after the end of their sport career. Around 25 elite ex-athletes have got the "Sport card" at an event for promotion of the best athletes of the year in Ravne na Koroškem. Half of them used the card, mostly for the swimming pool and sauna. Very often also for ski-lifts.
Additional information (optional)  Photo: Personal archive	Local community Ravne na Koroškem has excellent sports facilities which are located all within 300 metres of the sports park in the vicinity of the town. Elite ex-athletes have free access to all of them. Each year new sport cards are delivered. Sport Centre called Dom Telesne Kulture offers a gym with basketball and volleyball courts and a table tennis hall, a 4-lane bowling alley, 25-meter-long indoor swimming pool, jacuzzi, children's paddling pool, saunas (finish, Turkish, infra), dance hall, martial arts and judo hall, and a chess room. A stadium with a 6-lane running-track (artificial), soccer field (104 x 68 metres), long jump, high jump, open fitness, Poseka ski slope, Olympic-size pool (50 x 25 metres), sport hall Prežihov Voranc (40 x 20 metres) for handball, five-a-side football, basketball, volleyball, and climbing wall; Outdoor facilities with a cross-country track (XC) for mountain bikes, a football field (artificial grass and covered during the winter), three tennis courts (sand; two indoor), beach volleyball court, volleyball court (concrete), basketball court (concrete), tennis wall, multi-purpose court with artificial grass (five-a-side football, badminton, volleyball, etc.). and Castle Park (running, auxiliary football field), Trim Trail and themed hiking path.
Contact details for more information	Anita Goltnik Urnaut

Theme	**WELL ORGANIZED REGULAR SPORTS ACTIVITY FOR SENIOR EX-ATHLETES**
Title	Veteran Volleyball
Sub-title (optional)	National veteran volleyball team
Name of the institution(s)	Sport club Veteran volleyball
Country concerned	Slovenia
Level of activity	National and international
Summary  Photo: Personal archive	For 15 years ex-volleyball players practice volleyball on recreational level once a week in Slovenian capitol Ljubljana. Some players from Carinthia, working and living in Ljubljana started the activity and invited volleyball friends to join. They hired a sport hall and organised regular practice for men and women together. During the pandemic they hired sport halls also in other towns (Ravne, Kranj) and played many friendly matches around Slovenia.

	They started to join international competitions under the umbrella of IVVA: International veteran volleyball association. They participated in an unofficial European championship in 2018 and won the 4th place in the category men 55+. Then they invited a top-level volleyball coach, who is also a senior. He invited some players who trained volleyball on recreational level (from Vuzenica, Ravne, Velenje, …). They worked together for the last three years and won bronze in 2019 and silver in the first official European championship in 2021. They already sent the entry form for the world veteran championship (October 2022) and established the women team.
Additional information (optional)	Average age of the players is beyond 60 years, the oldest player is 77.
Included ex-elite athletes and coaches	Elite ex-athletes are engaged: 2 out of 14 played in the national team, 50 % in the first volleyball league. The coach was an elite volleyball player, captain of the Yugoslav volleyball team.
Contact details for more information	Adi Urnaut

Theme	**Former athletes' reunion**
Title	Volleyball veterans
Sub-title (optional)	Regular annual meetings of Slovenian volleyball veterans, engaging many former top athletes
Country concerned	Slovenia
Summary  Photo: Tone Hojnik. 2013	Former volleyball players who played in the 1960s meet annually. In the younger years, the meetings were related to playing volleyball, but now it's just a social event.
Additional information (optional)	
Contact details for more information	

ANNEX 3: EXAMPLES OF GOOD PRACTICE IN EXERCISE AND ADAPTING PHYSICAL ACTIVITY FOR ELDER PEOPLE

When planning and implementing sports activities we consider among other things the individual's physical ability and their sport speciality during the competition period. We can follow their wishes with activity suggestions or add new ones and diversify the sports activities on offer.

What they all have in common is the desire to relax. have fun and socialise with peers with similar experiences of sports life. The activities chosen can be a stimulus and a challenge to try something new or to stay within the sport that has been with them throughout their competitive career.

Here are some of the areas of recreational sport that are also suitable for an elite group of former athletes:

- Exercise model for maintaining and developing strength, balance, and flexibility
- Swimming and water activities
- Volleyball

3.1 TRAINING MODEL FOR SENIORS TO MAINTAIN AND DEVELOP STRENGTH. BALANCE AND FLEXIBILITY

At all stages of life, it is important to maintain independence and thus the functional capacity of the body to carry out all activities of daily living. These are a wide range of complex activities that are natural in themselves when the body is working. To remain physically active and independent from the help of others for as long as possible, it is necessary to maintain muscle strength, flexibility and balance in older age (Mišigoj-Duraković et al., 2003).

Adequate exercise preserves muscle mass and reduces bone loss, which improves stability and prevents falls and injuries (Heimer et al., 2000). It also inhibits ageing, increases general physical resistance and performance, maintains joint flexibility, strength and flexibility, stimulates metabolic processes, maintains correct posture and spinal alignment, which is important for respiratory and digestive function, restores muscle flexibility, strength and flexibility, stimulates cardiovascular function and prevents cardiovascular disease, and has a positive effect in the treatment of diabetes mellitus, colon cancer, osteoporosis and its clinical manifestations, induces respiratory hyperventilation and improves aerobic capacity, influences skin activity, resistance and adaptability, stimulates endocrine (hormonal) gland function, regulates body weight and influences mental health by preventing depression and giving a sense of calm and general satisfaction with life (Stoppard, 1991).

Exercise to maintain and develop strength, balance and flexibility can be done in the water, outdoors and in sports facilities. Exercise should consider individual's physical abilities, the suitability of the exercises, the number of repetitions and the duration of the loads.

Each exercise session must consider the specific needs of the participants and be adapted to individuals with different physical abilities.
The exercise session should last 45 to 90 minutes, with
10 to 20 minutes warm-up,
30 to 60 minutes of active exercise, and
5 to 10 minutes cooling down and relaxing.

Warm-up exercises prepare the body for the effort required to perform other exercises or training. They increase your heart rate, body temperature and blood circulation to your muscles, preventing injuries later. Exercises such as: fast walking, hopscotch, alternating between fast and slow walking, walking with changing foot positions, high knee raises, walking in pairs, walking while bouncing the ball, various chasing games, bouncing balloons, passing the ball and similar exercises can be performed.

Photo: Personal archive

The active training part involves exercises to develop and maintain strength, balance and flexibility. If the exercise class is dedicated to active training, active training (volleyball. basketball. football. etc.) is performed during the active training part.

At the end of the session, there are exercises to cool down and relax the body, such as:
Ankle and wrist rotation: this exercise relaxes the muscles of the wrist and ankle;
Alternating leg-to-leg jumps with shaking of body parts: the exercise is done standing with alternating slight leg-to-leg jumps, shaking the legs, arms and torso, breathing out and in, with emphasis on the muscles of the lower and upper limbs and the torso;
Free-hanging torso flexion: standing outstretched, the torso is lowered into flexion, the arms are towards the legs, the torso and arms are freely hanging, take a deep breath, the exercise is relaxing for the muscles of torso and arms;
Leg shake: lying on your back, spread-eagled and comfortable, knees bent, shake your legs, relaxing the muscles in your legs.

Exercise to maintain and develop strength

Those who have relatively well-preserved strength can fully utilise their muscles and overcome the external forces that are constantly present in life in various physical activities (Berčič, 2002). Due to physiological conditions, it is in strength that much can be gained and maintained into old age with adequate training. Exercise should be proportional and should represent the totality of all components of the human locomotor system, considering muscular endurance. Such exercise strengthens cardiovascular fitness, which depends on the functional abilities of the heart, circulatory system, respiratory system and skeletal muscles, which need to be adapted to prolonged stresses and is one of the important concerns for strengthening in the elderly.

When doing exercises to maintain and develop strength, you can use a variety of equipment, such as weights of different weights, elastic bands, balls, sticks and more. Exercises can be performed with your own weight, but it is also advisable to exercise on training machines (e.g., in a gym) as it allows you to target the specific muscle groups you want to develop.

Here are some examples of exercises to maintain and develop strength: a lower number of repetitions is recommended at the beginning. e.g., 3 to 5 repetitions in one set, gradually 10 or more repetitions (depending on how you feel):

- Circling with hands and ball: standing with the arms outstretched, hands in front of the body, holding the ball in the hands and circling the arms in front of the body, strengthening the shoulder girdle and the muscles of the arms;
- Holding the ball on the nape of the neck: standing with the body spread, bending horizontally, holding the basketball on the nape of the neck, horizontal rise and bend, strengthening the extensors of the torso;

Photo: Personal archive

- Ball spin: standing in a straddle position, holding the ball on the chest and pulling it down with the arms outstretched, the exercise is strengthening the arm extensors;
- Spearing the ball towards the partner: standing staggered, doing the exercise in pairs with a five-step interval, holding the ball on the chest: spearing the ball towards the partner with the arms outstretched in an upward forearm, the partner catches the ball in an upward forearm, presses it to the chest and spears it towards the partner in a medium-high arc, strengthening the arm extensors with the exercise;
- Squat: from a standing position, perform a front squat and stand up, strengthening the leg extensors;
- forward-backward and left-right somersaulting over a hurdle: this exercise strengthens the leg muscles; raising and lowering a ball: lying on your back, arms in front of you, hold the ball with your hands and raise and lower it by contracting and extending your arms, this exercise is strengthening the elbow extensors and shoulder extensors;

Photo: Personal archive

- Hip raises: lying on your back, legs bent, hands in a hand grip, raise your hips, strengthening the muscles of your torso;
- Partner resistance exercises (wrestling);
- Carrying and lifting loads (including grocery bags or lifting pots, etc.);
- Walking up and down stairs.

Exercise to maintain and develop balance

Balance is the ability to quickly form the compensatory movements needed to return the body to a balanced position when it is disturbed. The force required to do this must be proportional to the force that causes the body to deviate in a stable position, and therefore balance is also the ability to precisely determine the direction and intensity of the compensatory movements that maintain or restore the body's stable position in space. Factors that influence balance are the sense of sight and hearing, tactile receptors for detecting deviations from the body's centre of gravity, the balance organ in the inner ear, the balance centre in the cerebellum and the kinaesthetic senses - tendon and muscle receptors and receptors around the joints (Pistotnik, 2003). Both static and dynamic balance are strengthened during exercise. Static balance is represented by tasks that require holding a specific position, while dynamic balance is

represented by tasks that involve overcoming a force that disturbs the equilibrium position during movement (Ismail and Gruber, 1967).

In elder people, balance as a motor skill is most impaired with age and needs to be strengthened and maintained much more than other skills. The simplest exercises, such as walking in a straight line, walking backwards and forwards with toes-heel contact, standing on one leg, squats, walking on a beam, sitting on a ball, transferring the weight of the body from one leg to the other, and others, allow both strengthening of muscle groups and stability of the body in space.

Here are some examples of exercises to maintain and develop balance: a lower number of repetitions is recommended at the beginning. e.g., 3 to 5 repetitions in one set, gradually 10 or more repetitions (depending on how you feel):

- Stand on one leg (preferably without support), hold the position for 10 seconds, then switch legs;
- Pushing your partner away while standing on one leg;
- Standing without support with the foot in front of the leg, hold the position for 10 seconds;
- Turn on its axis, first to one side and then to the other, slowly and then quickly;
- Walking backwards and forwards with the foot against the foot;
- Walking backwards and forwards on your toes;
- Walking back and forth on your heels;
- Walking on the outer edge of the foot;
- Walking on the inner edge of the foot;
- Walking with feet facing inwards;
- Walking with feet facing outwards;
- Walking in a straight line;
- Walking on attached ropes at a height of 10 centimetres;
- Different types of walking on the shaft;
- Crossing an obstacle (e.g., a ball, a stick) backwards and forwards and left and right.

Exercise to maintain and develop flexibility

Mobility is an important determinant of optimal fitness and wellbeing, which influences the quality of life of an individual, as muscle relaxation, which is associated with an adequate level of flexibility, is closely linked to a reduction in mental tension and allows for the smooth and independent performance of daily and instrumental (Finkel, 2003) or functional and recreational activities and self-care (Šušteršič et al., 1998). Mobility also influences the optimal performance of all other motor skills (Berčič, 2002). Mobility can be maintained at an appropriate level into old age through various stretching methods and regular exercise, taking into account the physiological characteristics of the musculoskeletal system in older age (Berčič, 2002). The importance of mobility only becomes apparent when people are no longer able to perform routine tasks or find them difficult to perform.

Examples of exercises to maintain and develop flexibility are given: a lower number of repetitions is recommended at the beginning. e.g., 3 to 5 repetitions in one set. gradually 10 or more repetitions (depending on your own wellbeing):

- Left-right head twist: standing with arms outstretched, hands at your side or in a hand grip: twist your head to the right side, then to the left side, stretching the neck muscles;

- Forward-backward head bend: standing staggered, arms at your side or in a hand grip: push your head forward (down) and back (up), stretching the muscles of the neck in the exercise;
- Forward/backward head movement: standing in a staggered position, move your head back and forth as if you were a tortoise, stretching the neck muscles;
- Shoulder lift: standing with the shoulders apart, arms in a hand grip, shoulders up and down, the exercise is designed to stretch the muscles of the shoulder girdle;
- Shoulder forward and back: standing with the shoulders apart, hands in a hand grip, shoulders back and forth, the exercise is designed to stretch the muscles of the shoulder girdle;
- Forward and backward arm circles: standing in a staggered position, arms in a hand grip, circling the arms back and forth, making large circles, stretching the shoulder girdle muscles;
- Push the arm back: standing in a straddle position, with one leg bent behind the head and fingers grasping the scapula on the opposite side, the other arm resting on the elbow of the bent arm and pushing the arm downwards, stretching the arm muscles and strengthening the shoulder girdle muscles;
- Relaxing the shoulder girdle muscles: standing in a straddle position, cross one arm over the chest, with the other hand push the first arm outwards in the shoulder, relaxing the shoulder girdle muscles;
- Arms swinging outwards: standing staggered, arms hunched inwards, arms swinging outwards, stretching the horizontal shoulder flexors with the exercise;
- Alternating backward swing with arms outstretched: standing staggered, one arm raised, the other hand held, alternating backward swing with arms alternating and stepping on toes at each swing, the exercise is designed to stretch the horizontal flexors of the shoulders and arms;
- Wrist exercises: shake hands.
- Exercises for wrist and arm muscle strength: bring your hands together and push them together in different positions (chest level, above your head, up, down);
- Contraction and stretching of the fingers.
- Alternating torso push-ups with alternating arm positions: standing in a staggered position, one arm raised, the other at the hip, alternating push-ups to one side and the other, alternating arms, the exercise is designed to stretch torso flexors, shoulder adductors and hip abductors;
- Torso bends: standing with the torso apart, arms in the stirrups, take a deep bend and go back to standing, the exercise is designed to stretch the extensors of the torso and hip and the flexors of the knee;
- Hip circles: standing with the body spread. arms at the sides, circling the hips in both directions, making big circles, the exercise is designed to stretch the torso;
- Alternating twists of the torso 2 times to the left and right: standing with the torso apart and bending horizontally, arms at arms' length, touching the foot of the opposite leg with the palm of the hand on each twist, the exercise is designed to stretch the torso abductors and extensors, the horizontal shoulder flexors, the hip extensors and the knee extensors. Flex the torso with the arms at arms' length;
- Swinging the leg sideways: standing with both legs together, swinging the leg out to the side, the exercise is designed to stretch the hip abductors and adductors;
- Swinging the leg forward - back: standing slightly apart, arms in front of the body, swinging the leg forward, the exercise is designed to stretch the hip flexors;

- Push the hips down: standing with one knee bent, push down with the hips, the exercise is designed to stretch the muscles of the hips.
- Push the hips down: standing in a straddle position, bend both legs together to a partial squat and squeeze the pelvic floor muscles, the exercise is designed to strengthen the muscles of the hips, legs, and pelvic floor muscles.
- Knee circles: feet together, hands on knees, circling both knees in one direction and then the other, to strengthen the knee joint.

3. 2 SWIMMING AND WATTER ACTIVITIES

Features of exercising in the water

Swimming is one of those activities that can involve people of all abilities and ages. In terms of its physiological effects on the body, swimming is one of the most multifaceted sports and recreational activities (Kapus et al., 2002). Swimming has a very beneficial effect on cardiovascular fitness, with beneficial effects on muscular endurance, coordination, strength, flexibility, and balance.

Characteristics of participants

The range of aquatic activities available to former elite athletes is much more varied and challenging, as they are rightly expected to have a higher level of fitness and commitment to continue their sports lifestyle.

It is advisable for the elite among the elderly to participate in sports competitions at various levels, including international competitions. It should not be overlooked that, like everyone else, elite athletes also face various forms of problems as they age, which, regardless of their former sports excellence, can lead them to be among those who also need therapeutically based training.

Jaring Timmerman, swam two world records in
his age category at the age of 104 and 11 months

OPPORTUNITIES AND VARIETY OF EXERCISE IN THE WATER

Swimming and diving

Swimming skills are vital, and a nation's cultural level and social development are judged by its swimming ability. For breaststroke swimming styles, crawl, dorsal and dolphin, as well as for diving the technique of execution itself ranges from basic to competitive. The trainer of the training group determines, according to the abilities of the individuals, the method, extent, and

intensity of the training process. He/she should also be familiar with the specificity of the training of elder people, in this case those who have had top careers in different sports.

Volleyball in water

For the most advanced group among the many water activities, we recommend water volleyball, which is challenging enough to be a new experience. The competitive form of water volleyball follows the current volleyball rules, including those relating to the place of serve, number of touches and changing places.
Equipment: volleyball, net, court edging, stands

Photo: Personal archive

How to play:

- The net divides the playing field into two parts at a height of 1.20 metres from the water surface.
- There are two teams, each on its own side of the net.
- We follow the basic rules of the game of volleyball.
- The winning team must win two or three sets.

Note: The rules of the game can be adapted if the abilities of the participants and the circumstances of the game demand it.

Therapeutic recreation in water

Due to the laws that affect the body in water, the stresses on individual body parts are incomparably lower than on land, allowing the elderly and those with less muscle strength to engage in a range of effective therapeutic exercise modalities, also suitable after injuries and various medical conditions.

Among the activities that have a positive effect on maintaining and developing balance, as well as on establishing balance positions, those in the water, including swimming, stand out. Walking in water with changes of direction and speed and turns are among the initial stages of balance training. The physical laws of hydrostatics and hydrodynamics, such as pressure, specific gravity, buoyancy and resistance of water, are a constant in practical work in water, where the opportunities for training to maintain and develop strength in elder people are much wider than, for example, in the gym. The use of water resistance and the potential for increased weight-bearing are advantages to be exploited. It is advisable to add stretching exercises after water strength training. Ageing inevitably causes changes in the heart, blood vessels and lungs, so attention to their good functioning is warranted. To this end, we include, for example, various types of walking, chasing, relay games, cheer games, competitive games, swimming in different swimming styles, as well as elements of therapeutic exercise. It should also be borne in mind that, for a variety of reasons (e.g., illness, head injury, stroke), even people who previously had good swimming skills may find themselves in a situation where they are no longer proficient. In such cases, it is necessary to re-learn swimming to restore the previous state. One of the established and proven methods for this type of intervention is the Halliwick concept of learning

to swim. The Halliwick programme of learning to swim is based on a ten-point approach, which identifies themes relating to mental adjustment, balance, controlling movement in the water and swimming independently.

Expert guidance in the water for seniors

We must remember that water is always a potential risk factor. The greatest responsibility in the exercise is that of the trainer, who must respect the professional doctrine and the prescribed normative bases when planning and carrying out the exercise, must be able to foresee the hazards, and must be able to take the correct action in the event of an accident (Kovač & Jurak, 2010). This is particularly true for training involving elder participants.

Accessibility and finance

The accessibility of water areas for swimming and other water activities depends on natural features and the number of public swimming pools. As regards swimming equipment, it is considered to be financially negligible, but the cost is incurred by those public bathing facilities where entrance fees are paid. However, the ratio between the entrance fee and the benefits of swimming and water activities justifies the expenditure in the vast majority of cases. A group of former top sportsmen and women also proposes that admission to public bathing facilities should be co-financed for them by their parent associations and federations.

3.3 VOLLEYBALL

Volleyball is the most widely played team sport. It is played all over the world, with 500 million active volleyball and beach volleyball players and 10 million coaches (http://www.fivb.org/EN/Technical-Coach/Document/CoachManual/English/#/23/zoomed). 220 countries are members of the International Volleyball Federation (http://www.fivb.org/EN/FIVB/FIVB_History.asp).

It is the most popular recreational sport and there are no age limits for playing. Children as young as pre-school age can start playing volleyball, and there are many players in their 80s who enjoy it. Volleyball promotes both physical and mental functioning, increasing flexibility, strength, speed, precision, coordination, balance and concentration, control of emotions and cooperation with others. It involves two important processes: identification of the individual with the team and integration into the team (Vute, 2004).

Photo: Veteran European Championship in volleyball, Slovenia and Romania, 56+, Slovenian captain with 77 years, the oldest participant (personal archive).

Image: beach volleyball: 80-year-old Lois Austin, playing volleyball for the seventh decade. https://www.cbsnews.com/news/80-year-old-volleyball-player-serves-up-passion-for-the-game/

SITTING VOLLEYBALL

Sitting volleyball is a form of volleyball. The main feature that distinguishes it from other forms of volleyball is that we sit on the floor while we play and especially when the ball is bounced. They must maintain contact with the ground during the game, they must not rise.

It is a very popular sport, adapted for people with physical disabilities, and can be played by everyone. As there are no jumps and no strain on the leg joints, it is a very suitable form for the elderly.

Photo: Slovenia - Netherlands POG 2008
Source: archive of the IPC - Paralympic Committee

Sitting volleyball is suitable for both men and women, for older and younger players. It is an exceptional opportunity for top volleyball players who have had to stop playing volleyball due to injury or impairment to resume their favourite sport. The game is played seated, so the jump is the element that is eliminated. The size of the court and the height of the net are adapted to sitting, but otherwise all the rules of indoor volleyball apply with a few exceptions. The adaptations of the sport allow individuals with lower limb impairments to compete on a fully equal footing with players who do not have such impairments.

DIFFERENCES BETWEEN SITTING VOLLEYBALL AND VOLLEYBALL

The adjustments to the playing rules in seated volleyball are:

- smaller court (6 x 5 metres instead of 9 x 9 metres),
- the line of attack is 2 metres from the net,
- lower net (1.15 metres for men and 1.05 metres for women, 1.00 for younger categories),
- a service block is allowed,
- it is where the player sits that counts for positioning, not where their feet are,
- it is allowed to touch the opposite court with the hand, foot,
- players are not allowed to get up off the ground during playing actions (World Paravolley, 2014).

SITTING BEACH VOLLEYBALL has the following adjustments compared to beach volleyball or sitting volleyball: the team consists of 3 players, the court size is 6 x 4 metres, the rotation rule applies, but players can sit anywhere.

WHEELCHAIR VOLLEYBALL

By adapting the rules of the game. wheelchair volleyball can also be played by wheelchair-bound persons (wheelchair volleyball - court size 7 x 7 metres. net height 160 centimetres for men and 150 centimetres for women, played with a larger inflated ball) (Vute, 1999).

Photo:
https://commons.wikimedia.org/wiki/File:US_Navy_081024-N-5086M-42_

ADAPTATIONS TO SUIT THE PHYSICAL ABILITIES OF THE PARTICIPANTS

- Playing to two sets won (instead of three).
- Lower net.
- Small playground.
- Bigger ball.

Depending on the physical abilities of the participants, we can adjust the size of the ball (the smaller the ability, the lighter and bigger the ball should be a balloon or a beach ball), the rules and the organisation of the game (in a single line, more touches, catching and throwing instead of bouncing...) to make the participants enjoy and have a good time playing the game.

Volleyball can be played sitting on chairs, over a net, on a table or in a circle, in pairs...

Photos: https://www.facebook.com/volleyclubsarrebourg/photos/?ref=page_internal

ANNEX 4: COMPETITION FOR SENIOR ATHLETES

The following are competitions for veterans, which date back to the 1960s and represent a type of physical activity for the elderly that is on the rise.

4. 1 MULTI-SPORT COMPETITIONS FOR SENIORS

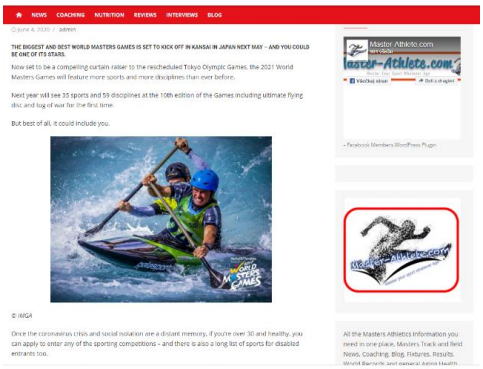
WORLD VETERANS' GAMES - WORLD MASTER GAMES

The International Masters Games Association (IMGA) is the umbrella organisation for the World Games. It promotes lifelong competition, friendship and understanding among elder athletes, regardless of age, gender, race, religion, or sporting status.

The first World Veterans Games were held in Toronto in 1985, the last Games in Auckland in 2017 attracted 28.571 athletes from 100 countries, and the next Games in Kansai in February 2022 are expected to attract around 50.000 participants (30.000 from Japan and 20.000 from other countries). They will compete in 35 sports or 59 disciplines. Athletes with disabilities will be able to compete in 18 sports. The games will introduce 34 new sports (https://wmg2021.jp/en/games/index.html). The age limit for entry is 30 years. The games take place every 4 years.

2021 WORLD MASTERS GAMES KANSAI JAPAN
https://imga.ch/event/world-masters-games-2021-kansai/

INTERNATIONAL MASTERS GAMES ASSOCIATION CALENDAR
https://imga.ch/about-the-masters-games/future-masters-games/
https://wmg2021.jp/en/games/list
https://imga.ch/masters-sports/sports-and-disciplines/taekwondo/



Last World Veterans Winter Games were organised in Innsbruck in January 2020 (https://www.innsbruck2020.com/en/), competitions were held in 12 sports. The next Winter Games will be held in Lombardy in 2024.

On a global level, the Huntsman World Games have been held annually since 1987, with the motto of Peace, Health and Friendship and, as the Games' initiator John Morgan used to say, "fun". Initially, there was only a volleyball competition, but now there are competitions in 36 sports. They are open to people over 50. The games are named after the chairman of the sponsoring Huntsman Corporation. The next games will take place in October 2022 (https://seniorgames.net/).

EUROPEAN VETERANS' GAMES

The European Veterans Games is a multi-sport event for people over 30 years of age, held every 4 years (under the auspices of the International Veterans Games Association (IMGA)). The last

games in Turin 2019 attracted around 7500 competitors, competing in 29 "summer" sports, 3 of which were dedicated to Para athletes. The next games will be held in June 2023 in Tampere.

Continental competitions are also held on other continents.

4.2 SPORTS AND COMPETITIONS, COMPETITION CATEGORIES

ATHLETICS			
Type of competition	Title of competition	Link to competition website	Details
European championships	European Master Athletics EMMTRC 2021 Italy	https://european-masters-athletics.org/	
	European Masters / Veterans Athletics Championship Calendar	https://european-masters-athletics.org/about-ema/european-veteran-championships.html	
World championships	World Masters Athletics 2022	https://world-masters-athletics.com/news/wma-tampere-2022-update-website-and-daily-schedule/	
Slovenia		Slovenia Veterans Association Website https://zavs.si/	Men 50 and beyond, groups of 5 years, women 40 and beyond

BADMINTON			
Type of competition	Title of competition	Link to competition website	Details
International competition	2022 Northumberland Masters Silver	https://be.tournamentsoftware.com/tournament/DF3766E1-265C-4329-A0AD-CFEED1BEA179	from the age of 35 and beyond, groups of 5 years to 70+

BASKETBALL			
Type of competition	Title of competition	Link to competition website	Details
European championships	European Seniors Basketball Association (ESBA) Druskininkai 2022	http://esba-basket.com/druskininkai-2022/	Minimum age for men is 40, and for women 30, groups of 5 years up to 75+ men and 55+ women
	European Maxibasketball Championship Malaga, Spain	http://www.fimba.net/en/news.php	Minimum age for men is 35, and for women 30, groups of 5 years up to 80+ for men and 65+ for women

Multisport competition	World Veteran Championship 2022	https://wmg2021.jp/en/games/detail?id=959	Minimum age is 30, groups of 5 up to 75+
National championship	Polish Open Championship, December 2021	https://www.facebook.com/Mi%C4%99dzynarodowe-Otwarte-Mistrzostwa-Polski-Oldboy%C3%B3w-108052387269320	40 to 49 and 50+ men 30 to 39 and 40+ women

BOWLING			
Type of competition	Title of competition	Link to competition website	Details
World championships	IBF Masters World Championship 2021, Dubai	https://ibf.websites.mygameday.app/event/ibf-masters-world-championship-2021-2/	Two age categories: 50 to 64 and 65+

CYCLING			
Type of competition	Title of competition	Link to competition website	Details
European championships	UEC MTB European Championship 2021, Serbia	https://novisadmtb2021.com/race-info/team	
	Calendar	https://www.uec.ch/resources/2021%20Events/0000_UEC_events_2021_2025_v18.11.2021.pdf	

GOLF			
Type of competition	Title of competition	Link to competition website	Details
International competition	Czech International Senior Amateur Championship 2021	https://www.cgf.cz/cz/sportovni-golf/souteze/souteze-jednotlivcu/souteze-jednotlivcu-2021/cisac2021	50 to 64, 65+

JUDO			
Type of competition	Title of competition	Link to competition website	Details
World championships	World Veteran Championship 2021	https://www.eju.net/event/world-championships-veterans-7/204984/	50 to 64, 65+
	World Veteran Championship Krakow, 2022	https://veterans.ijf.org/	
	International Calendar of Competitions	https://www.ijf.org/calendar?year=2022&age=sen&type=all	
National competition	Open Veteran National Championship of Slovenia	https://judoslo.si/competition/3627	Min. 30 years, 2 years not participating in official competitions,

			groups of 5 years to 70+

SWIMMING			
Type of competition	Title of competition	Link to competition website	Details
World championships	19th FINA World Masters Championship 2022, Fukuoka, Japan	https://www.fina-fukuoka2022.org/en/masters/outline.html	
European championships	European Aquatics Championship 2022, Rome	https://www.roma2022.eu/	
National championships		http://veteraniplavanje.spektrum.si/	Age 18, groups of 5 years to 90+

TABLE TENNIS			
Type of competition	Title of competition	Link to competition website	Details
World championships	World Veteran Championship 2023, Muscat, Oman	Competition 2020 https://www.ittf.com/2020-ittf-world-veterans-tour/	Age categories and disciplines: 40, 50, 60, 65, 70, 75, 80, 85, 90+
European championships	14th European Veteran Championship, Rimini, Italy	www.evc2022.it	Age categories and disciplines: minimum age 40, groups of 5 years to 90+;
International Calendar	ITTF Veteran International Calendar	https://www.ittf.com/2021-veterans-international-calendar/ https://www.ittf.com/2022-veterans-international-calendar/	
National competition	NC for Masters' and Recreational Athletes 09/04/2022, Ljubljana	https://slo-namiznitenis.si/ntzavse/rekreativni-nt/	Age 40+, groups of 10 years (men), 50 and beyond (women)

VOLLEYBALL AND BEACH VOLLEYBALL			
Type of competition	Title of competition	Link to competition website	Details
World championships in volleyball	IVVA World Veteran Volleyball Championship 2022, Alcudia	https://www.ivva.eu/ivva-indoor-volleyball-tournament/	Men: 40 to 47, 48 to 55, 56+ Women: 34 to 44, 45+
World championships in beach volleyball	IVVA World Veteran Beach Volleyball	https://www.ivva.eu/ivva-beach-volleyball-tournament/	Men: 40 to 49, 50+ Women: 34 to 44, 45+

	Championship 2022, Alcudia		
European championships		https://volley.ee/harrastajad/rannavorkpall/veteranide-rannavolle/ivva-european-veteran-volleyball-championship-ivva-beach-veteran-volleyball-tournament-2021/	Men: 45 to 55, 55+ Women: 40 to 50, 50+
Multisport championships	Volleyball at IMGA Master Games, Japan, 2022	https://www.wmg2021.jp/en/games/detail?id=1005	30+, 35+, 40+, 45+, 50+, 55+, 60+, 65+, 70+, 75+ Beach volley doubles and fours
	World Senior Volleyball Championship (Huntsman World Senior Games)	http://www.globalcupvolleyball.com	men: 55+, 65+, 73+, 78+, women: 55+, 65+, 73+, 76+

WRESTLING			
Type of competition	Title of competition	Link to competition website	Details
World championships	World Veteran Championship Loutraki	https://uww.org/event/world-championships-56?tab=results https://www.sportcamp.gr/en/news/veterans-world-championships-2021	

TENNIS			
Type of competition	Title of competition	Link to competition website	Details
World championships	ITF Super-Seniors World Individual Championship 2022	https://www.itftennis.com/en/tournament/itf-super-seniors-world-individual-championships-(65-70-75-80-85-90)/usa/2022/s-wc-usa-02a-2022/	65, groups of 5 years to 90
	ITF Seniors World Individual Championship	https://www.itftennis.com/en/tournament/itf-young-seniors-world-individual-championships-(30-354045)/por/2022/s-wc-por-01a-2022/	50, 55, 60
	ITF Young Seniors World Individual Championship	https://www.itftennis.com/en/tournament/itf-young-seniors-world-individual-championships-(30-354045)/por/2022/s-wc-por-01a-2022/	30, 35, 40, 45
European championships	European Senior Championship 2021, Croatia	https://www.tenniseurope.org/news/140435/ATP-venue-sunshine-and-high-class-Seniors-Tennis-in-Umag https://www.tenniseurope.org/page/16271/ITF-Seniors-Circuit	30, groups of 5 years to 85+
	International Calendar	https://www.itftennis.com/en/itf-tours/seniors-tennis-tour/	

ROWING

New Zealand Masters Rowing Championship 2021
https://www.rowingnz.kiwi/Category?Action=View&Category_id=708

RUGBY
European Veteran Rugby Association Calendar
https://www.evrugbya.org/Overview.989.0.html?&type=imagephotos%2F

SAILING
EurILCA Master European Championship 2021, Gargnano, Italy
https://eurilca.org/final-results-2021-master-europeans/

TRIATHLON
Triathlon England EAST Championship 2020
https://www.britishtriathlon.org/east/take-part/race-series/adult-champs

FOODBALL
International Super Masters 5-a-side World Cup Football Tournament, Zurich 2022
https://faculty.educ.ubc.ca/hubball/worldcupMASTERS/entries2020.html

MOUNTAIN RUNNING

The 20th World Masters Mountain Running Championship, Telfes, Austria
https://www.wmra.info/news/latest-news-from-the-wmra/904-the-20th-world-masters-mountain-running-championships-in-telfes

SKIING

2022 FIS Masters Cup/Western Regional Championship, USA
https://usskiandsnowboard.org/masters/masters-events-schedules

KARATE

9th European Shotokan Karate Championship, Monte Negro
https://www.skdun.org/invitation-to-9th-european-championships-kohai-cup/
https://www.swimmingworldmagazine.com/results/masters