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## Article

# Healthy Aging and Physical Activity: The Qualitative Research

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# Healthy Aging and Physical Activity: The Qualitative Research

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## Abstract

Population aging is a global trend encouraging countries and their governments to introduce different policies related to the increasing number of older adults. Also, on the individual level, people can contribute to healthy aging by performing regular physical activity. Physical activity improves next-day job performance and health. Additionally, a recent study from Harvard Business Review found that even a short time of physical activity (20 minutes per day) was sufficient to benefit employees' next-day performance and health. The goal of this study is to deepen the knowledge of healthy aging, specifically, related to senior adult health and wellness management. To study the phenomena, we employed qualitative research by integrating the coaching perspective through the expert opinion of Gregor Sobočan, Master of Sport International Class and head coach of professional athletes in the Slovenian national sports team at the national level, and senior participants, athletes in the Kettlebells Center sports club in Ljubljana, Slovenia. Namely, we collected their opinions and performed the content analysis. The research outlined that regular physical activity and active and healthy aging are vital for human health, in line with the integrative body-mind-spirit framework.

**Keywords:** healthy aging, physical activity, seniors, health and wellness management, body-mind-spirit framework

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## Introduction

Population aging is a global trend encouraging countries and their governments to introduce different policies related to the increasing number of older adults (Dimovski et al., 2021; 2022). Based on such policies, it will be possible to evaluate whether increased longevity can be viewed as an opportunity or a threat to societies (Chang et al., 2019). Worldwide, 1.4 billion adults are insufficiently active, with one in three women and one in four men not engaging in adequate physical activity (Hayden Cheng & Na Li, 2023). There has been no improvement in physical activity levels since 2001, and physical inactivity is twice as bad in high-income countries than in low-income countries. The research found (Hayden Cheng & Na Li, 2023) that daily physical activity generated a package of next-day resources, called "resource caravans," that contributed to work-related outcomes. Physical activity improves next-day job performance and health. Additionally, a recent study from Harvard Business Review (Hayden Cheng & Na Li, 2023) found that even a short time of physical activity (20 minutes per day) was sufficient to benefit employees' next-day performance and health (Hayden & Na Li, 2023). The research outlined that physical activity and active and healthy aging are vital for human health.

According to science on aging, the aging process leads to a decrease in muscle mass and strength. Loss of strength is directly connected with the reduction of muscle mass. These results support the hypothesis that the accelerated process of muscle mass and strength loss starts earlier, near the 40th life year. The muscular system accounts for approximately 40% of the total body mass, and the human body's cell mass consists of 75% of muscle cells (Keller et al., 2013). Approximately a quarter of the total body protein synthesis takes place in the muscular system. Skeletal muscle is an important tissue of the human body, which is especially responsible for voluntary movement control. The maximum physical capacity comprises the decade between the 20th and 30th life years. Between 30th to 50th life years, the reported changes in muscle mass, power, and strength are small.

World Health Organization seeks to maximize the benefits of physical activity: preventing and managing noncommunicable diseases like cardiovascular diseases (e.g. coronary heart disease and stroke), various types of cancer, improving overall physical and mental well-being, improving cognitive capacity and guaranteeing healthy growth and development (Hayden Cheng, & Na Li, 2023).

Integrative body-mind-spirit theory recognizes spirituality as a fundamental domain of human existence, acknowledges and utilizes the mind's power as well as the body's, and reaches beyond self-actualization or symptom reduction to broaden a perception of self that connects individuals to a larger sense of themselves and to their communities (Lee et al., 2018). Numerous research cases demonstrate the approach in action, such as one with breast cancer patients who participated in body-mind-spirit and social support groups and another in which trauma survivors used meditation to get onto a path of healing. These examples provide solid empirical evidence that the integrative body-mind-spirit social framework is indeed a practical therapeutic approach to bringing about tangible changes in clients (Lee et al., 2018). Grounded in a holistic- and strength-based paradigm, the Integrative Body-Mind-Spirit framework social work expanded the remedial-oriented practice model by integrating a multidimensional wellness model, advocating that the healing process starts to wheel with clear awareness, loving-kindness, and compassion, which transforms the sufferings to positive meanings and growth (Li, 2022). A paradoxical belief of the Integrative Body-Mind-Spirit framework is on prompting resilience through "regaining control by letting go of control" (Li, 2022; Li et al., 2022; Chan et al., 2006).

Healthy aging is more than just the absence of disease. It is the process of developing and maintaining the functional ability that enables well-being in older age. Recent research outlined that the statistics on aging and older people were not given sufficient priority in the past (Gardner, 2021). As a result, according to the Economic and Social Commission for Asia and the Pacific statistics, data are not systematically produced, analyzed, and disseminated by national governments. In 2020 the WHO launched the Decade of Healthy Aging 2020-2030, observing that three-quarters of the world's countries have limited or no data on healthy aging or older age groups. The UN Decade of Healthy Aging brings together these agendas with a call to action. Its goal is to increase the significance of aging, create urgency to act, and generate change that transforms population aging from a challenge to an opportunity. The lack of data and analysis contributes to the invisibility and exclusion of older people. We need to interrogate the extent to which communities are good places to grow old; and whether they have sufficient resources to support older residents (Keating, 2022). According to Goerres and Vanhuys (2021), political actors play a crucial role in (mis-)managing, manipulating, and (under-)planning population change, as long-term population aging and short-term migration fluctuations present structural conditions.

Dementia prevalence is increasing worldwide (Dietzel et al. 2021), and developing countries are expected to bear the greatest burden (Hogervorst, Schroeder-Butterfill, Handajani, Kreager, & Rahardjo, 2021). Factors associated with active aging (e.g., more extended employment, participation in society, independent, healthy, and safe living, and environments that enable people to remain psychosocially and physically active) could help maintain independence for older people longer, given the high care needs of dementia and the current lack of adequate long-term treatment (Hogervorst, Schroeder-Butterfill, Handajani, Kreager, & Rahardjo, 2021). Recent research shows that the risk of developing dementia decreases significantly with later age retirement (Centre for Social Justice, 2019). This suggests that working longer has the potential to maintain physical and mental well-being and postpone and potentially reduce illness and associated healthcare costs. In addition, Rohwedder and Willis' 2010 Mental Retirement study, which examined several nationalities, found that early retirement has significant negative effects on the cognitive abilities of people in their early 60s (Center for Social Justice, 2019).

The Stanford Center for Longevity Index helps assess the overall well-being of a country's older population compared to others and identifies which factors contribute to a country's relative standing. The index summarizes 12 key indicators of well-being in old age in four domains-material, physical, social, and emotional well-being (Stanford Center for Longevity, 2022). The SCL/PRB index averages the four domains: Social Well-Being, Emotional Well-Being, Physical Well-Being, and Material Well-Being.

The purpose of this study is to deepen the knowledge of healthy aging, specifically, to deepen the knowledge related to senior adult health and wellness management. To gain a deeper understanding of the phenomena under study, we used the coaching perspective through the expert opinion of Gregor Sobočan, Master of Sport International Class and head coach of professional athletes in the Slovenian national sports team at the national level, and senior participants, senior athletes in the Kettlebells Center sports club in Ljubljana, Slovenia. The world count and content analysis are performed to analyse the collected data.

## Methodology

In the first part of the qualitative study, the concept of senior adult health and wellness management was explored by applying the coaching perspective through the expert opinion of Gregor Sobočan, Master of Sport International Class and head coach of professional athletes in the Slovenian national sports team at the national level. The interview contained ten open-ended questions.

As part of the qualitative research protocol, we also interviewed four participants of the Kettlebells Centre in Ljubljana. On August 25, 2023, we disseminated the research instrument via the online social group of the Kettlebell Centre sports club, which contained seven open-ended qualitative questions. All data were collected in Slovenian and translated into English for the purposes of the study. Participants answered the questionnaire between August 25, 2023, and September 1, 2023. Participants were also asked about their age and professional background, and the anonymity of the survey was guaranteed.

The word count and content analysis (Stemler, 2000) were performed to analyze the collected data. To enable the reader to gain an in-depth perspective, the collected answers are presented, together with the word qualitative word cloud analysis for the coaching perspective. At the end of the results section, also the results of the content analysis are discussed.

## Results

In the first part of the qualitative analysis, the concept of senior adult health and wellness management was explored by applying the coaching perspective (see Table 1 and Figure 1).

Table 1

Expert opinion by Gregor Sobočan, Master of Sport International Class, head coach of professional athletes in the Slovenian national sports teams at the national level – The coaching perspective on senior/adult health and wellness management: Quotations provided by the respondent

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**1. As a head coach of world-class athletes in Slovenia, world champion, and author of studies on sport and coaching, how would you present the specificities of coaching seniors/adults - in terms of approach, equipment, dynamics, and effects? What kind of different techniques do you use in comparison to younger generations? How does your motivational approach change?**

*"Hi, first of all, I would like to thank you and your team for the opportunity and honor to be invited to an interview like that.*

*When coaching adults, I consider that this is the type of population that wants to train with me. For me, it is not the goal to attract people to come, but rather to stay. Moreover, if and when they decide to leave, they leave as better human beings, be it physically or mentally. People in their late 30s and older usually know what they want in their lives... and they certainly know what they don't like. I try to explain to each and every one of them why it is so important to be persistent, that consistency is the key, and also what physical strength is. It is now just one component but many of them, and we all have to train all of them. Not all the time and not all together, but to maintain physical health, we have to train each component at least twice a week.*

*According to equipment, I try to stick with the basics: Kettlebells, Barbells, Dumbbells, and, of course, body weight. Cardio machines are there because it is easier to keep a group of people together on a stationary machine than running outside. I have to adjust a little bit, but that is not so chronological age-related, but more biological. Sadly, most people who stay in my Gym are fitter in their 50s than an average 20-year-old.*

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Motivation is another thing. When someone decides to come and train, I think I do not need to motivate much. Maybe I change things around a little when I see that things are repeating too much, and maybe cheer a little before tests or more complex intervals. When someone comes to my Gym to spend time here, and he/she does not respond to my explanations the first few times, I stop to bother because the question was about training the adults, and that is childish acting."

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**2. How would you highlight the specificities and innovativeness of training programs for seniors/adults? What needs to be innovated, and what is needed to support physical training of older adults?**

"There is much talk about the specificities and innovativeness of programs, but let us be honest here. The fitness industry is still ... just an industry. Moreover, the industry cannot sustain itself without selling new things. However, the problem here is that 99% of what is called innovative is probably a few levels too advanced for 99% of the population, or, if we look at new equipment, 99% is just the same old stuff in a new package.

I am not saying that Coaches should study and keep their eyes open, but for the general population, it's more important to stick to the basics. The problem with today's » Insta world« is that everyone wants » Insta results «within weeks (if not days) and with zero effort. For Coaches, it is easier to introduce a new piece of equipment to a group than to focus on progressive overload, be it strength, endurance, flexibility, or coordination.

Of course, once we have a client who has been »stuck with us« for more than seven years, not taking too many breaks and following a plan, it is time to change things a little bit. With older people, coaches have to be careful and maybe extend a warm-up a bit, and we have to understand that with age, the ability to move quickly goes down. Moreover, since power is force times speed, the Coach must understand that power will slowly decrease with age and that progress is already if a client is not losing it."

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**3. Which modern training technology and equipment do you apply? If money would not be a problem, what kind of technology would you most wish to buy today? What about in the future? What do you think will be the trend of older adults training?**

"You know me, I am »a Slavic blood« (smile ...) so let me quote what one of my Slavic friends, the mighty Michail Koklyaev, said in my Gym in his seminar: "If you give me 10.000.000 €, and ask me to move into the mountains, but never to touch weight again I would take half, and compensate the other half for a barbell and 500kg of plates." However, I understand the question, so let me reply in a less Slavic manner. I believe that body weight and dumbbells are enough, but not all people (not just seniors) can do pull-ups. Today's population and younger generations are in such bad shape that even ten push-ups are a considerable challenge. Not to mention pull-ups or one-leg squats. That is why external weights are introduced. And machines. I am not a fan of those, but to be honest, maybe I will have to add a few pieces of machinery into my Gym. Cardio machines are a good option for those who do not want to run or even walk uphill, and they are handy when doing circuit workouts. That lat-pulldown is for those who can do pull-ups. Maybe a leg curl machine, but that is more for rehab. There are hundreds of machines now, but, for me, rather than buying one, I like to make a body that works like one."

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**4. The process of human aging is positively and directly related to the loss of muscle mass and strength, while there is a more significant decline in strength in middle-aged people between 40 and 60. How do you adapt your adult training program in terms of the importance of muscle mass?**

"Yes, you are right here. But, on the other hand, think where do people live the longest. Is it in the USA, where they have all the machinery in the world, or is it India, Russia (not Moscow or St. Petersburg), or is it in the mountains? In today's world, we give too much focus on physical strength only. Our grandparents (especially grandfathers) were all farmers, working-class heroes. They were strong, but they were skinny strong, not too bulky, but strong enough to take care of the farm animals, house, and themselves. The key to quality life after a certain point is stress-free, but maybe I am just off with that topic.

Training strength is a super important aspect of physical preparation and life quality for sure. When training older people (and older, I am not talking early 40s or 50s, but at least 65+), I decrease the intensity and try to add more volume to the program. Of course, a

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coach has to be smart there because the recovery time is longer at that age, and hormones are not working the same anymore. A lot can be done with proper nutrition and a good lifestyle."

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**5. How would you present the critical aspects of training program development that are important in adult training?**

"Not just in adults, but also in younger population. They have to train all components of physical fitness: Strength, Endurance, Flexibility, Mobility, Stability, Coordination, Stamina, Power, and Speed."

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**6. What are the specificities that need to be taken into account when training adults?**

"Well, first is recovery time. We have to know the client's training age. If I get a 45-year-old with zero training in the last 5-10 years (or more), we have to start from scratch, from the ground up. Technique first and then slowly build from there. If I get a 60-year-old who has been training regularly for the last 10 years, then the story is different. But, as I mentioned earlier, recovery time is longer due to age, hormone imbalances, and other factors that age influences."

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**7. What is an example of how adult training is structured?**

"At least two times a week, steady state cardio of 50 to 70 minutes and moderate intensity. At least two times per week, strength training. So, the main movements that the client can handle (are overhead press, horizontal press, horizontal pull, vertical pull, squat, hinge, and lunge). Rep and set range depend a little on training age and the specificity of the current program, but I try not to go under 6 reps for the older population. At least two times a week, mobility (it can be before strength training or after endurance). Once a week, something new, dance moves, martial arts, racket sport, swimming... Pilates (but original, not some variation of new age weekend instructors), which can also be a part of a strength program."

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**8. What would you recommend as the key to maintaining holistic health (body, mind, and spirit) and well-being for adults?**

"Everything from the previous answer and healthy nutrition and stress-free as much as possible. About nutrition, don't complicate too much; eat enough fruits and vegetables, proteins, and healthy carbs. You cannot go wrong with potatoes and rice. About proteins, I don't think there is anything wrong with animal proteins, but if we have a vegetarian or vegan client, they have to make sure to combine nutrients and amino acids in a way that they get all amino in the right amount into their system. Avoid processed food, alcohol, cigarettes, drugs, and stress."

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**9. How has adult coaching been adapted during the Covid-19 pandemic?**

"To be honest, I don't think it has. I think this was good for coaches because many people realized how important being healthy is. Being fat was the most significant risk in that strange era. Some might say yeah, but people are avoiding Gyms now. They spend more time in nature, and they bring home Gym equipment. I think that we, coaches, should be happy about that because if we are true to our self and our life mission, that we want to see a healthy population than it is nothing wrong with people living healthy lifestyles without spending money on Gym membership and classes. We have to accept everyone who comes to us because that means that we truly deserve that person, that he/she is seeking help, and that we are lucky enough that we got a chance to help."

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**10. Do you also do online training? Personal training 1:1? What do you advise?**

"I have an open platform and still have clients from my Kettlebell Lifting days who are asking for my programs. I post a lot of my training sessions for free, I offer online 1:1 tailor-made programs, and there are some programs in my books, but at the moment, I am too busy to go online. That is one of my goals, but I will need a team of people for that."

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Source: Author's own work

In Figure 1, the results of the qualitative word cloud analysis of the coaching perspective are presented.



Table 2

Answers to the qualitative research of the senior participants senior athletes at the sport club Kettlebells Centre, Ljubljana, Slovenia - The participant's perspective on senior/adult health and wellness management: Quotations provided by respondents

| <b>Qualitative research questions:</b>  | <b>Participant 1:<br/>Age: 39/ male;<br/>Profession: law</b>   | <b>Participant 2:<br/>Age: 43/ male;<br/>Profession:<br/>Hotel<br/>Operations<br/>Manager</b>   | <b>Participant 3:<br/>Age: 41/ male;<br/>Profession:<br/>Researcher in<br/>the field of<br/>electricity</b>  | <b>Participant 4:<br/>Age: 50/<br/>male;<br/>Profession:<br/>education<br/>and<br/>consulting</b>   |
|---|--|---|--|---|
| <b>1. Why do you (as an adult/senior) exercise? Why did you start exercising?</b> | "Maintaining physical fitness, flexibility, muscle mass, stress reduction (nowadays life/life environment has become extremely stressful as we live in a brutal (vampiric) capitalism of atomized individuals where man is, unfortunately, a wolf to man and community is broken into proto-factors) and such anti-stress exercises have become a necessity). I started to exercise to maintain my health and to reduce stress." | "In recent years, I have been exercising mainly for my health and well-being. I have noticed a greater resistance to stress and illness as a result of exercising. I have been exercising almost all my life, in my younger years it was mainly sport and competition that motivated me, but then the habit continued into exercise." | "I exercise because I enjoy it, it makes me feel good, and it offsets the negative effects of a sedentary office job. I started exercising because I wanted to get into a better psycho-physical condition." | I have been doing sport since the age of 33 - for general well-being (I used to run). I started lifting weights because of a knee injury. |
| <b>2. How long have you been exercising, going to</b>                             | "12 years. Maintaining health (including muscle mass)  | I have been exercising for the last 15 years. After stopping more   | Karate 10 years, kettlebells lifting approx. 1 year, trail running   | 12 years running - 6 years kettlebell lifting - knee  |

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| <b>exercise?<br/>What<br/>motives and<br/>reasons<br/>would you<br/>give for<br/>starting to<br/>exercise?</b> | <i>stress relief,<br/>and staying<br/>fit."</i>   | <i>serious sporting<br/>activity, I gave<br/>up regular<br/>exercise for a<br/>few years,<br/>which<br/>affected my<br/>health and<br/>weight. During<br/>this time, I<br/>started a<br/>family and had<br/>two children,<br/>but I<br/>neglected<br/>regular<br/>physical<br/>activity too<br/>much, which<br/>then<br/>influenced my<br/>decision to<br/>start exercising<br/>again.</i> | <i>approx. 3<br/>months.<br/>Karate was a<br/>childhood wish,<br/>plus I feel really<br/>good after<br/>training. I train<br/>with kettlebells<br/>and trailers<br/>because that's<br/>what I like to do.</i>                    | <i>injury and<br/>general<br/>wellbeing.</i>  |
| <b>3. What aids<br/>do you use<br/>when you<br/>exercise?</b>  | <i>"Ball weights<br/>(Gyria or<br/>Kettlebell), bar,<br/>medicine ball,<br/>elastic bands."</i> | <i>Kettlebell<br/>weights in<br/>particular, but<br/>also other<br/>strength<br/>training<br/>equipment<br/>(Olympic bars,<br/>weights,<br/>bench, etc.)<br/>and cardio<br/>machines at<br/>least once a<br/>week.</i>   | <i>"Kettlebells,<br/>gym trainers,<br/>wrist sweats,<br/>heart rate<br/>monitor with<br/>Garmin watch<br/>at KB. Running<br/>trainers and<br/>heart rate<br/>monitor with<br/>Garmin watch<br/>for trail running.</i>            | <i>Kettlebell<br/>weights and<br/>classic<br/>weights.</i>  |
| <b>4. Which<br/>tools,<br/>equipment,<br/>and<br/>exercises do<br/>you like the<br/>most, and<br/>why?</b>     | <i>Kettlebells, for<br/>a combination<br/>of aerobic and<br/>anaerobic<br/>exercise."</i>       | <i>I like kettlebell<br/>weights the<br/>most because<br/>they are a bit<br/>more specific<br/>exercises that<br/>require a lot of<br/>technique as<br/>well as mental<br/>stamina. I<br/>would<br/>definitely<br/>recommend</i>   | <i>For the last year<br/>I have been<br/>using a heart<br/>rate monitor in<br/>my workouts,<br/>which allows<br/>me to analyse<br/>individual<br/>workouts and<br/>target my<br/>training more<br/>specifically. I<br/>would</i> | <i>The kettlebell<br/>is a weight<br/>that requires a<br/>dynamic lifting<br/>technique<br/>(unlike<br/>conventional<br/>weights),<br/>which transfers<br/>a lot of the<br/>dynamic lifting<br/>to the whole<br/>body and</i> |

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|   |   | KB weights to anyone because they are very versatile and can be incorporated into a lot of exercises.   | recommend that people who are involved in exercise educate themselves about the benefits of training based on heart rate.   | mainly to the legs. I often use elastic exercises for flexibility.  |
| <b>5. Do you prefer any specific technique of exercise?</b>                               | "Kettlebell clean and jerk, snatch. Combination of aerobic and anaerobic exercise, or good for maintaining functional muscle mass (not for biceps development, but for the well-developed muscle groups throughout the body, or a functional athletic physique)." | Personally, I really like the Clean & Jerk exercise because it contains almost all the CB techniques and is also very good for testing physical and mental endurance.   | I also recommend gentle stretching and breathing exercises to help with recovery and well-being.  | Personally, I like the Turkish get up and snatch exercises the most because they work the whole body, which also requires attention to technique, movement, and strain  |
| <b>6. As a participant, what do you see as innovative about the approach to exercise?</b> | "A regular change of the training or a variation of the exercises means, on the one hand more physical and mental effort, on the other hand the results of such a training have positive effects on the health and the mental strength of the                     | Incorporating relaxation exercises and correct breathing, which our trainer Gregor Sobočan incorporates into our training every now and then. Training in small groups of 6-8 people to motivate each other and work as a team, | In terms of recent trends, I would say it is innovative exercise using modern technologies, e.g. the use of virtual reality, personalised exercise using artificial intelligence, exercise with sensors, exercise with robots, exercise tailored to the | I don't know if it's innovative because the sport is more than 150 years old. But for me it is the most optimal exercise, among all the sports I have practised (including strength, I am not talking about cardio, which would be cross- |

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|  | <i>trainee in the long run."</i>   | <i>sharing experiences, opinions, thoughts...</i>   | <i>genetic characteristics of the individual, etc....</i>   | <i>country skiing ... closer to optimality).</i>   |
| <b>7. What are the perceived effects of exercise on your well-being and health as you perceive them?</b> | <i>"Positive, because exercise makes it easier for me to cope with everyday life (I can bear and cope with stressful events in and out of work more easily), and it also makes me healthy and free from health problems, which has a positive effect on my life in general."</i> | <i>It's a habit I can't imagine my day or week without at this stage of my life, so exercise is a very important element of health and well-being. I exercise or do more serious exercise (running, hiking) 6 out of 7 days a week. This habit also has a big impact on our family life and as a result we all love to exercise in some way."</i> | <i>Since I have been practicing karate regularly, I am healthier, stronger, and mentally stable."</i> | <i>Definitely more strength, a better sense of fitness, and more mental capacity and emotional serenity. Occasional physical fatigue is just a by-product of."</i> |

Source: Author's own work

In the following part of the analysis, the content analysis was performed. The findings of our content analysis of the collected data on health and wellness management for seniors show that exercise interventions performed through a holistic approach to exercise are positively and directly related to the improvements in the quality of life as well as the longstanding healthiness. As the studies on the psychological elements of senior health and wellness management suggest, people aged 50+ experience noticeable aging changes, emphasizing the strength loss of more than 15% per decade (Keller et al., 2013). The prior studies show that the aging process of an adult human is directly and positively related to loss of muscle mass and strength. The greater loss of strength occurs in middle-aged individuals, when they reach the ages of 40 and till 60. It is estimated, that worldwide at least 1.4 billion adults are not active enough, specifically one in three women and one in four men are engaging in insufficient physical activity (Hayden Cheng & Na Li, 2023).

## Discussion and conclusion

This research promotes the integrative body-mind-spirit framework as an overarching theory (Lee et al., 2018). The theory recognizes spirituality as a fundamental domain of human existence, acknowledges and harnesses the power of the mind as well as the body, and goes beyond self-actualization or symptom reduction to expand the

perception of self that connects individuals to a greater sense of self and community (Lee et al., 2018).

New research agendas clarify multidimensional health relationships and new educational approaches, namely spiritual wellness, holistic health, and the practice of health education, that can promote positive outcomes in various health dimensions. There exists an opportunity for health educators to move toward models of health promotion that more fully appreciate the interconnectedness of various dimensions of health and that promote them even-handedly (Hawks, 2004).

Losing grip strength and slowing down may be dementia warning signs (Radavelli-Bagatini et al. 2023). A new study has shown that loss of muscle mass could indicate the start of dementia in older people. With age, people tend to lose muscle mass. After the age of 30, people start to lose as much as 3% to 5% per decade, according to Harvard Health Publishing. While losing muscle mass can cause weakness and affect mobility, a new study showed that it could also indicate the start of dementia in older people. Impaired muscle function has been identified as a risk factor for declining cognitive function and cardiovascular health, both of which are risk factors for late-life dementia (after 80 years of age). In recent research (Radavelli-Bagatini et al. 2023), the authors examined whether hand grip strength and timed-up-and-go (TUG) performance, including their change over five years, were associated with late-life dementia events in older women and whether any associations provided independent information to Apolipoprotein E  $\epsilon$ 4 (APOE $\epsilon$ 4) genotype.

The main limitation of this study is to be found in its qualitative nature – it does not allow generalization to the population. In addition, only males participated in the study. As a possible avenue for further research, a longitudinal, quantitative study should be performed. Nevertheless, in the today hectic world that is aging rapidly, we should take time for our body, our mind, and our spirit to stay healthy as long as we can.

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