

The Relationship Between Physical Activity, Exercise Goals, and Health Satisfaction in Elderly Women

Michalina Kuska^a, Marcin Pasek^b, Leonard Nowak^c, Mirosława Szark-Eckardt^a,
Maria Alicja Nowak^c

^aDepartment of Health Sciences and Physical Culture,
Kazimierz Wielki University in Bydgoszcz, Bydgoszcz Poland

^bFaculty of Physical Culture, Gdansk University of Physical Education and Sport, Gdansk, Poland

^cDepartment of Physical Culture and Health, University of Szczecin, Szczecin, Poland

Purpose: The aim of the present study was to assess the intensity of physical exercise, its objectives, and satisfaction with health among women over the age of 60 years.

Methods: The study included 577 physically active women aged 60-79 (mean age 67.8±4.8 years), residing in northern and central Poland. Standardized tools were used, namely, the Minnesota Leisure Time Physical Activity Questionnaire and the Inventory of Physical Activity Objectives. Nonparametric statistical methods were applied.

Results: There was a difference between the intensity of physical activity (Activity Metabolic Index – AMI) and the strength of motivation (motivational value - MV), time management (TM) and choosing physical activity vs. other goals (motivational conflict - MC) ($P < .05$ for the H test, each time). Women engaging in low (AMI_L), high (AMI_H) and total (Total_AMI) levels who considered MV important, achieved better results compared to those who considered it unimportant ($P < .001$ for the U test in each case). Those who appreciated the importance of physical activity goals on the MC scale and exercised at the AMI_M, AMI_H, Total_AMI levels achieved better results compared to those who considered them unimportant ($P < .001$; $P < .01$; $P < .01$ for the U test, respectively). Respondents with better results on the MV, TM, MC scales were more satisfied with their health compared to those who were dissatisfied ($P < .001$ for the U test) (moderate effect size: $R_g = -.29$; $R_g = -.28$; $R_g = -.24$).

Conclusions: The demonstrated links between the intensity of physical activity, its goals, and the health of older women offer practical guidance for instructors, trainers and psychologists. The findings suggest that it is possible to support and shape additional motivations and to set new realistic goals that may enhance perseverance in action and thus undertake lifelong physical activity.

Keywords: women over 60, physical activity, health, physical activity goals

Introduction

In highly developed countries, people live nearly 30 years longer than in the previous century. Due to higher male mortality rate, aging is associated with the feminization of the population. In 2023 year, women aged 60-64 years accounted for 52.7% of subjects in this age group (52.9% in 2020), and the feminization rate was 112 (113 in 2020 year). Among people aged at least 85 and older, women accounted for 72.1% (71.98% in 2020); the ratio of men to women was 100 to 258 (100 to 249 in 2020).^{1,2} The progressive aging of society calls for intensive health education efforts, including initiatives to promote physical activity.³ Regular physical activity of the elderly is associated with a reduced risk of chronic disease and improved physical and mental fitness.^{4,5} After the age of 60 years, a more frequent occurrence of civilization diseases is observed, caused by, among others, a sedentary lifestyle.⁶ Recent studies also highlight the benefits of physical activity, especially for improving cognitive function in older adults.⁷ Physical activity, particularly aerobic and resistance training, has a positive impact on cognitive health and well-being in older adults and reduces the decline in these functions with age. A sedentary lifestyle is also a major contributor to low back pain, which poses a significant challenge for healthcare systems. Research by Dhahbi et al.⁸

clearly indicates the possibility of preventing this condition by using movement variability instead of traditional static posture correction methods. These findings could help shift the healthcare approach to managing older adults' musculoskeletal health. Many studies confirm that even small amounts of regular physical activity can contribute to increased physical fitness, improved sleep quality and benefits for overall health.⁹ Physical activity and a proper diet prevent many lifestyle diseases,¹⁰ support the development of pro-health attitudes and enhance quality of life across multiple domains.^{11,12}

A survey of 1,006 people in Poland (2024 year) on physical activity revealed that 66% engage in physical activity at least once a month. This is still insufficient, as one in three Poles (34%) do not exercise at all. Fewer than half of adult Poles meet the World Health Organization (WHO) recommendations for moderate physical activity – 43% engage in less than three hours of activity per week. At the same time, only 18% of older adults use their free time as an opportunity for physical activity. Although 88% of Poles recognize physical activity as a key element of disease prevention, only 41% of people over the age of 60-years report exercising to prevent illness.¹³ Despite this awareness, 57% of individuals over 60-years those born between 1946- and 1964-year (Baby Boomers)¹⁴—report no physical activity at all. In recent years, in order to promote health-oriented physical

activity among older adults, new subjects have been introduced into the curricula of physical education universities in Poland including gerokinesiology and kinesigerontoprophylaxis, which expand the area of kinesiology.¹⁵ Previous studies have analyzed various aspects of health-promoting physical activity of older women,¹⁶ explored the determinants of physical activity,¹⁷ and assessed the risk of falls.¹⁸

Physical activity has been shown to improve overall health,¹⁹ physical fitness, and quality of life among older women,²⁰ and those experiencing depression symptoms.²¹ Other studies have shown that for women aged 16–64 years, the main goals of physical activity include maintaining a slim figure, improving health, and enhancing well-being,²² while those aged 61–92 years most often identify health as the primary motivation.²³ Insufficient physical activity, as a key risk factor for many diseases, contributes to rising healthcare costs - particularly in ageing populations. Introducing simple but sustainable changes in the lifestyle of society, such as increasing physical activity to the levels recommended by the WHO, may bring individual, economic, as well as social benefits.²⁴ These positive outcomes can occur even with a modest increase in activity levels. However, current research on physical activity in older adults does not adequately address the specific challenges and opportunities related to activating the oldest generations.²⁵ Further studies are therefore needed, along with systematic monitoring of physical activity during this stage of a woman's life.

The aim of the study was to examine the relationship between the intensity of physical activity, its objectives, and health satisfaction among women over 60 years.

The following hypotheses were formulated: a) the forms of physical activity preferred by older women (such as walking, cycling, and light gardening work) are associated with a longer duration of this activity. b) Recognition of the motivational functions of physical activity goals is associated with a higher Activity Metabolic Index (AMI). c) Respondents who achieved higher scores in motivational values, time management, motivational conflict, and persistence in action report greater satisfaction with their health.

Methods

Participants

The aim of the study was to determine the relationship between the intensity of physical activity, its goals, and health satisfaction among women over the age of 60. In the study of leisure-time physical activity among women over 60, it was essential to include only physically active individuals (inclusion criterion). Therefore, only women who regularly participated in physical activities were qualified for the study. Women under 60 years of age and those professionally involved in physical culture, were excluded from the study. A total of 577 women aged 60 and over, residing in northern and central Poland, participated in the research. Among them, 68.3% were aged 60-69 years, and 31.7% were aged 70-79 years. The average age was 67.8±4.8 years. Most participants had secondary education (60%) or higher education (32.5%) and lived in cities (88.6%). Respondents were mostly married or in a relationship (53.6%). Their financial situation was assessed as very good by 31.1%, as average by 60%, and as satisfactory by 9.9%. A minority (7.6%) reported occasional employment, including part-time jobs or contracts for specific tasks. The most preferred forms of physical activity included hiking, cycling, home-based exercise, dancing, and swimming. Over half of the participants (56.2%) engaged in physical activities organized by the Universities of the Third

Age (UTA). According to the study findings, most respondents had completed secondary education (60%), while 32.5% held a higher education degree. Among women, 56.2% participated in UTA activities. Furthermore, 33.5% of UTA participants had higher education qualifications. Women most frequently undertook activity individually, within social groups, with family members, or at fitness clubs (31.2%). Among UTA members, 59.5% had completed secondary education, whereas 58.8% of those exercising outside UTA also reported having secondary education. Physical activity was more prevalent among women over the age of 60 who had attained at least secondary or higher education. Written informed consent was obtained from each subject engaged in the study. The research was approved by the local ethics committee and conducted the research in accordance with the principles of the Declaration of Helsinki.

Data Collection

The study employed the standardized Minnesota Leisure Time Physical Activity Questionnaire (MLTPAQ),²⁶ the Inventory of Physical Activity Objectives (IPAO),²⁷ and an author-developed questionnaire. The MLTPAQ enables the collection of data on physical activity undertaken during leisure time, unrelated to occupational or educational obligations. It evaluates activities performed over the past twelve months. The MLTPAQ includes activities related to the varying loads on the musculoskeletal system and differing levels of energy expenditure. These activities include walking and alike, overall physical conditioning activities, aqua exercises, winter sports, gardening, housework and other forms of physical activity. To assess the intensity of physical activity in a categorized manner, a three-level MET (Metabolic Equivalent) scale was used: ≤4 MET (L - light intensity activities); 4.5-5.5 MET (M - moderate intensity activities), ≥6 MET (H - high intensity activities). For each intensity level, a Total Activity Metabolic Index (Total_AMI) was calculated (including AMI_L, AMI_M, and AMI_H). The following formula²⁸ was used to determine energy expenditure assigned to each activity type: $AMI = (\text{intensity code} \times \text{duration} \times \text{frequency per month} \times \text{number of months/year}) / 52$, where 52 corresponds to the number of weeks in a year, and the intensity code represents the assigned MET value. The conversion factor used for the questionnaire in the whole year version (12 months) divided by the number of weeks allows for estimating the average weekly metabolic rate of physical activity.²⁶

The Inventory of Physical Activity Objectives (IPAO)²⁷ is designed to assess the motivational function of physical activity goals, defined as goals related to voluntary physical effort undertaken during leisure time. Respondents rate the importance of each goal using a 5-point Likert scale, where 1 indicates “not important at all” and 5 denotes “very important”. Based on factor analysis and alignment of individual items in terms of the theory of motivational goal function, the following scales were identified: motivational value – the strength with which goals influence a respondent’s behavior; time organization - the degree of concentration on planning, organizing, and allocating time for physical activity; perseverance in action - the effectiveness and durability of action and coping with adversities; motivational conflict - the degree of conflict between physical activity goals and other life goals. In relation to the motivational function of physical activity goals, the degree of agreement with specific statements was assessed using a Likert scale (1 - completely disagree to 5 - completely agree). Raw scores were converted into *sten* scores,²⁰ which were then categorized as below, equal to, or above the mean. The raw values of the individual subscales (motivational value, time management, persistence in action, and motivational conflict) were converted into *sten*

scores, based on established norms. The validation of the IPAQ test and the procedure for converting raw scores into *sten* scores are described by Lipowski and Zaleski.²⁷

Statistical Analysis

After testing the normality of distribution (which deviated from normal), the Kruskal-Wallis's test (H) was used to compare several independent samples. In cases where statistically significant differences were found between two independent samples, the Mann Whitney (U) test was applied. Effect sizes were calculated for each test: ε^2 for the Kruskal-Wallis H test, Glass rank biserial correlation (R_g) for the Mann Whitney U test. In qualitative analyses, the trait frequency and the chi-square test of independence were used, as well as *Cramér's V* for the χ^2 test. Differences were deemed statistically significant at $P < .05$. Statistical calculations were performed using Statistica 13.3 (TIBCO Software INC. 2017, Krakov, Poland).

Results

The main goal of physical activity for 59.3% of women over 60 years was to maintain or improve health, as defined by

factors such as normal blood pressure, cholesterol levels, and body weight. 11.6% of respondents reported well-being as their main motivation. Physical activity for physical fitness and condition was declared by 12.7% of women. 9.7% of respondents participated in physical exercises primarily for social interaction. Undertaking physical exercises for a slimmer body (beauty, appropriate "sculpture" and body firmness) was of much less importance (2.8%). Less than 4% (3.98%) of women cited other goals, which included: physical activity (6. staying physically active ("fit") in line with current trends; 7. enhancing self-esteem or gaining recognition; 8. deriving pleasure from physical activity; 9. escaping daily routine; 10. stress relief; 11. satisfying the need for movement; 12. promoting physical activity by personal example).

Among physically active women, low-intensity activity prevailed, considering both Total_AMI coefficient values (120.38 MET min/week) and its duration (263.43 min/week). Among physically active women, low-intensity activity prevailed, considering both the Total_AMI coefficient values (MET 120.38 min/week) and its duration (263.43 min/week) (**Figure 1**). The AMI_M for moderate-intensity activities was

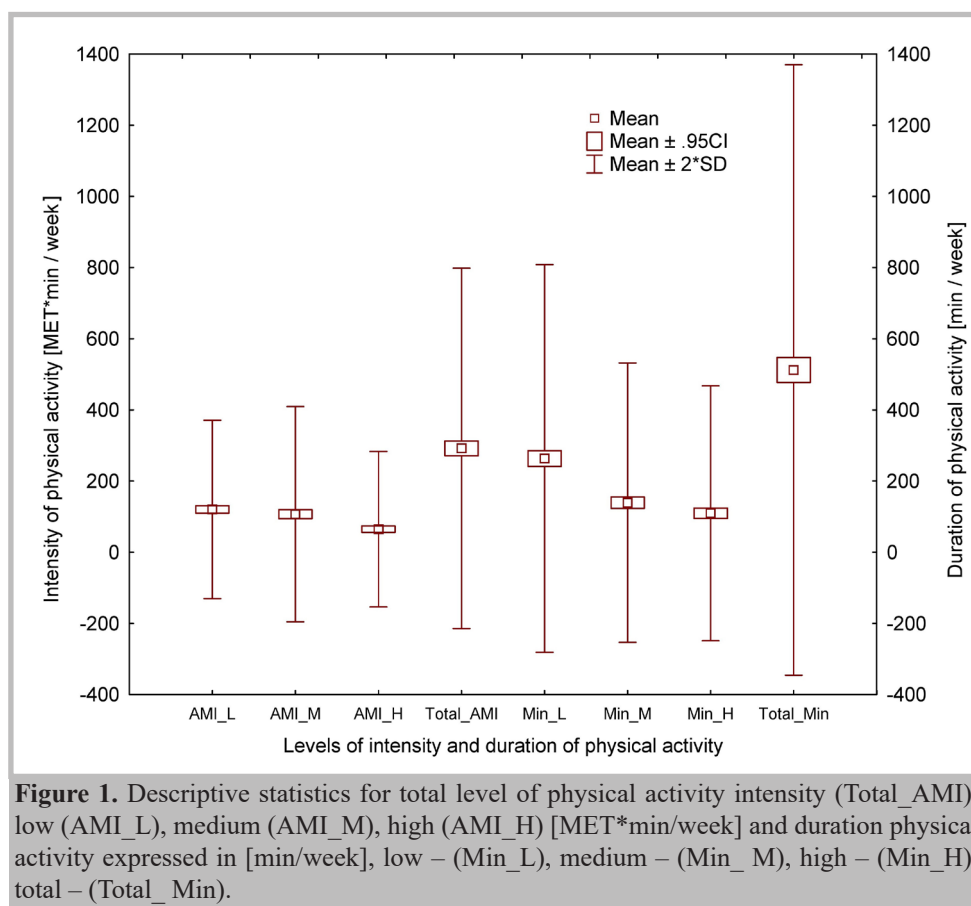


Figure 1. Descriptive statistics for total level of physical activity intensity (Total_AMI), low (AMI_L), medium (AMI_M), high (AMI_H) [MET*min/week] and duration physical activity expressed in [min/week], low – (Min_L), medium – (Min_M), high – (Min_H), total – (Total_Min).

106.89 MET min/week, with an average duration of 139.20 min/week. For high-intensity activities, the AMI_H was 64.73 MET min/week, with an average duration of 109.46 min/week. The Total_AMI for the respondents was 292.01 MET min/week, and the duration of physical activities was 512.1 min/week (approximately 8.5 hours per week). The average exercise time in minutes/week was the shortest for those with high and medium intensity levels compared to those practicing low-intensity exercises. Interestingly, older women who participated in low-intensity exercises (AMI_L) spent more time on physical activity compared to those participating in moderate (AMI_M) and high-intensity (AMI_H) activities.

There was a difference between the intensity of physical

activity (Activity Metabolic Index – AMI) and the strength of motivation (motivational value - MV), time management (TM) and choosing physical activity vs. other goals (motivational conflict - MC) ($P < .05$ for the H test, each time) (**Table 1**). The motivational value construct refers to the degree of influence that goals exert on an individual's behavior. It encompasses several components: a strong belief in goal attainability, the experience of pleasure upon goal achievement, a sense of loss in the event of failure, belief that one's efforts will contribute to success, the willingness to devote energy to goal pursuit, an absence of boredom associated with the goal, the belief that the goal is worth the required effort, and a high level of goal-related motivation. Significant differences were identified

Table 1. Physical activity level [MET*min/week] (MLTPAQ) versus motivational functions of the goals of this activity (IPAO) (H test, ε^2 , U test, R_g)

IPAQ sub-scales	Physical activity level [MET* min/week]	Signifi-cance of goals (in sthene)	Physical activity goals				Ranks mean
			Mean	>Mean	Mean	> Mean	
			P value for U statistics		Glass rank biserial correlation (Rg)		
MV	AMI_L H (2, N=577)=12.41 P= .002; ε²= .021	< Mean	>.05	<.001	-.09	-.19	269.3
		Mean		>.05		-.11	295.2
		> Mean					325.0
	AMI_H H (2, N=577)=13.85 P= .001; ε²= .024	< Mean	>.05	<.001	-.09	-.21	268.4
		Mean		>.05		-.11	294.5
		> Mean					327.2
	Total_AMI H (2, N=577)=14.52 P= .000; ε²= .025	< Mean	>.05	<.001	-.07	-.21	268.7
		Mean		>.05		-.14	289.2
		> Mean					329.3
TM	AMI_H H (2, N=577)=8.95 P= .011; ε²= .015	< Mean	>.05	<.01	-.05	-.16	271.3
		Mean		>.05		-.10	287.3
		> Mean					317.2
	AMI_M H (2, N=577)=14.13 P= .000; ε²= .024	< Mean	<.001	<.001	-.26	-.30	218.5
		Mean		>.05		-.02	295.1
		> Mean					302.5
	AMI_H H (2, N=577)=8.79 P= .012; ε²= .015	< Mean	>.05	>.05	.06	-.12	283.4
		Mean		<.01		-.15	270.5
		> Mean					314.3
MC	Total_AMI H (2, N=577)=9.36 P= .009; ε²= .016	< Mean	<.05	<.01	-.19	-.24	235.5
		Mean		>.05		-.06	288.3
		> Mean					306.1

Note: AMI_L – low level of physical activity intensity; AMI_M – medium level of physical activity intensity; AMI_H – high level of physical activity intensity; Total_AMI – total level of physical activity intensity. MV – motivational value; TM – time management; MC – motivational conflict.

across the scales of motivational values, time management, and motivational conflict (each with $P < .05$, Kruskal-Wallis H test). However, no significant differences were observed in the perseverance in action scale across groups differentiated by physical activity intensity ($P > .05$, H test). Women with low (AMI_L), high (AMI_H), and total (Total_AMI) levels of physical activity who considered motivational values (MV) as important (*sten* scores > mean) turned out to have better results compared to those who assessed them as less important (*sten* scores < mean) (U test) ($P < .001$ each time).

Respondents who rated time management (TM) as highly important (scores > mean) demonstrated significantly higher levels of physical activity (AMI_H) in comparison to those who rated it as moderately important ($P < .01$, U test). Higher physical activity levels were thus associated with better time management – particularly in planning, organizing, and allocating time specifically for physical exercises). Among women with moderate physical activity levels (AMI_M), those who rated physical activity goals as important scored better results on the motivational conflict (MC) scale than those who rated such goals as unimportant (< mean) or moderately

important ($P < .001$, U test, $R_g = -.26$; $P < .001$, U test, $R_g = -.30$, respectively). Similarly, participants with high physical activity levels (AMI_H) were more likely to consider physical activity goals as highly important, in contrast to those who rated them moderately important ($P < .01$, U test). Overall, participants with higher Total_AMI scores assigned greater importance to time management compared to those who rated it as moderately important or unimportant ($P < .01$, U test). Women who noticed the meaningfulness of motivational conflict and did not disregard it (overcoming contradictions: physical activity goals vs. other goals) undertook physical activity higher than light. All identified differences were characterized by moderate effect sizes.

An overall differentiation between physical activity goals and health satisfaction was observed in the following scales: motivational values, time management, and motivational conflict (H test; see **Figure 2**). Women who scored higher on these scales reported greater satisfaction with their health compared to those expressing dissatisfaction: motivational values (MV): $H(2,577) = 11.42$, $P < .01$, $\varepsilon^2 = .019$; time management (TM): $H(2,577) = 13.83$, $P < .001$, $\varepsilon^2 = .024$; motivational conflict (MC): $H(2,577)$

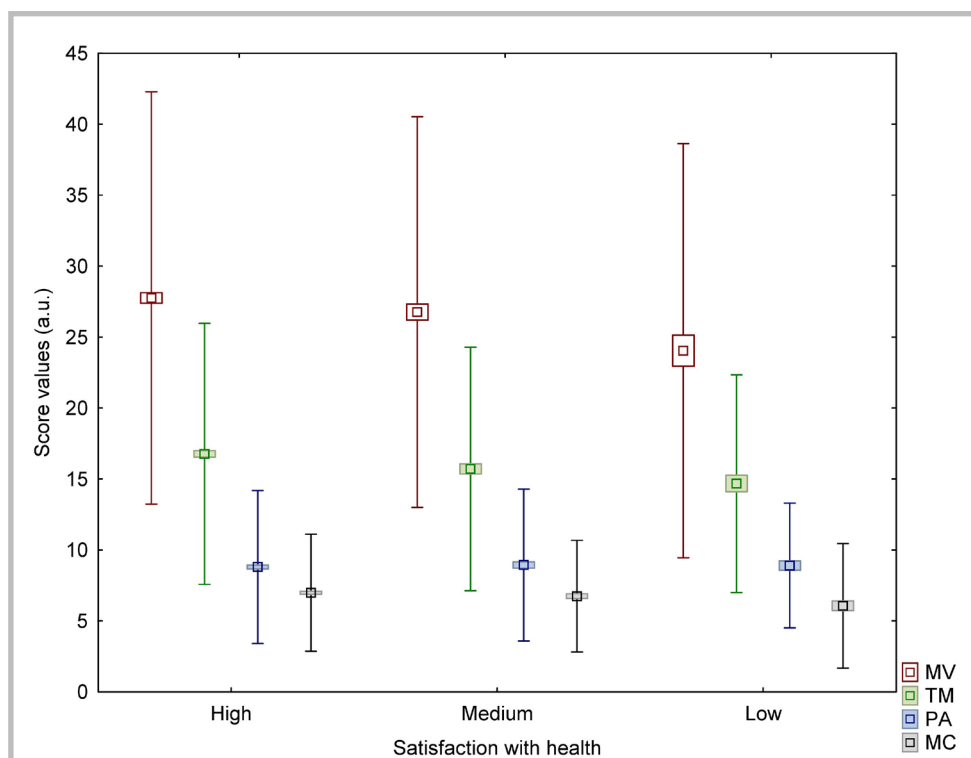


Figure 2. Motivational functions of physical activity goals of women and their satisfaction with health (Mean; Mean±SE; Whiskers: Mean±2*SD). Three categories were identified to determine the level of satisfaction with health status: high (very satisfied and satisfied); medium (neither satisfied nor dissatisfied); low (very dissatisfied and dissatisfied).

= 7.63, $P < .05$, $\varepsilon^2 = .013$. No statistically significant differences were identified in the perseverance in action (PA) scale ($P > .05$). Individuals who recognize the significance of physical activity goals (MV), demonstrate effective time management skills (TM), and consistently choose to engage in physical exercise despite the presence of competing alternatives (MC), achieved superior outcomes ($P < .01$, U test each time), $R_g = -.29$; $R_g = -.28$; $R_g = -.24$.

Discussion

The empirical findings presented in this study enabled a partial identification of factors determining the level of physical activity intensity, its associated goals, and the degree of health satisfaction among women over the age of 60 years. Furthermore, they also made it possible to indicate the relationships between the intensity of physical activity undertaken and its underlying motives, thereby contributing to an understanding of the purposefulness of such behavior. The aging process is influenced not only by demographic and social factors, genetics, past illnesses and injuries, but also by an individual's lifestyle and broadly understood activity. Physical activity plays an important role in the lives of older adults, as it significantly improves quality of life in various areas and contributes to greater health satisfaction. It does not matter whether the physical activity takes place in sports clubs under the supervision of an instructor or is undertaken individually as a form of recreation. In our research, we found that the main goal of physical activity for 59.3% of women over the age of 60 years was maintaining and improving health - defined, among other indicators, by normal blood pressure, cholesterol levels, and body weight. Well-being, as well as improved physical fitness and condition, were cited as goals nearly five times less frequently. Polish studies have shown²² that the main reasons for engaging in physical activity among women aged 16-64 years

were primarily achieving a slimmer body, improving health, and enhancing well-being. In a randomly selected study of Wrocław residents aged 55-75, the main reasons for physical activity were physical fitness (43%) and health (34%).²⁹ Slightly different results were obtained in a study of 60 women aged 50-55 years.³⁰ In that group, the main motivation for undertaking physical activity was the desire to enhance physical fitness and achieve a slimmer body. Health-related motives (such as maintaining and improving health) were significantly less common- although they were the most important among respondents aged 60-79 years. In a study involving 60 women aged 65-85 years, it was found that the main determinant of undertaking physical activity was improving the body's functionality and enhancing overall well-being. More than 53% of older women engaged in physical activity to improve physical fitness, while 38.3% cited weight loss or obesity prevention.³¹ Based on these findings, it can be concluded that physical activity goals change with age and are adapted in response to declining physical condition, more frequent health problems, and evolving psychophysical needs. The co-occurrence of numerous diseases with age becomes a key factor in motivating individuals to engage in physical activity for health-related reasons. Slightly different views on the motives for physical activity are demonstrated in recent studies covering both women and men from different generations.¹⁴ For the Baby Boomer generation (born in 1946-1964), i.e. individuals aged 61-79 years, the main motivations for participating in physical recreation included preventative health care, pleasure, and relaxation. In our study, which focused solely on physically active women, the emerging hedonistic motives were found to be less important.

Low-intensity physical activity prevailed among the respondents, both in terms of the Total_AMI scores and the duration of individual activities. Women engaging in low-intensity activities spent more time on exercising compared to those characterized by medium or high levels of activity. Studies on physical

activity strategies among 4,108 elderly women aged 70-99 years also revealed low-intensity exercises (mainly walking) were the most common form of activity, occupying most of the respondents' leisure time.³² Similarly, in a group of 110 healthy women from western Poland aged over 60 years, low-intensity exercises dominated as well. The results of the studies showed that approximately 5,000 steps per day are sufficient to feel a positive effect on the mental, functional and cognitive health of this segment of the elderly population.³³ However, it is difficult to precisely determine the intensity of such activity.

Our own research confirmed a general differentiation in the intensity levels of physical activity among women, based on the metabolic index Total_AMI and the motivational functions associated with physical activity goals. This differentiation included the scales of motivational values, time management and motivational conflict. Higher scores on the motivational values scale had a stronger effect on women's physical activity levels. A higher level of physical activity was also associated with better time management. The best results in this area were observed among physically active women who rated this factor as important compared to those who gave it medium or low importance. The respondents presented a similar level (there were no differences) on the scale of perseverance in undertaking physical activity (effectiveness and durability of action and coping with adversities). The MLTPAQ is used in Poland to assess leisure-time physical activity levels in population-based and clinical studies. The Minnesota Questionnaire was first used in Poland in clinical trials. These studies have shown that both before and after angioplasty, the physical activity of men (aged 34-79 years) was in the range of light effort, below <4 METs, and did not exceed 2000 kcal/week. Patients after angioplasty turned out to be more active in household chores, but there was no increase in physical activity in recreational activities.³⁴ In the tested sample of 343 postmenopausal Polish women, a low level of physical activity significantly increased odds ratios for CVD risk factors such as BMI ≥ 30 kg/m², total body fat (TBF) >75th percentile, gynoid fat deposit (GFD) >75th percentile, total cholesterol (TC) ≥ 5 mM, low-density lipoprotein cholesterol (LDL-C) >3 mM, and HOMA ≥ 1.95 . Obesity and some metabolic CVD risk factors in postmenopausal women are directly associated with low physical activity level.³⁵

The results of Lefrer et al.'s analysis³⁶ emphasized the significant role of motivation and self-efficacy in engaging in physical activity among the elderly female subjects in our study. A longitudinal study conducted in Great Britain among older individuals, with an average age of 77.9, showed that the need for motivational support varied at different stages of a 12-month group program. Group interactions served as an important source of motivation during the first six months, while improved motor skills and mobility became key motivational factors in the later stages (at 12 months) as well as after the intervention ended (at 24 months).³⁷ Identifying motivation, regardless of the intensity of physical activity, may have a beneficial effect on maintaining long-term participation in physical activity.³⁸ The use of the IPAQ in this study provides an opportunity to shape motivation and establish new goals. Health benefits, especially for older adults, also include actions aimed at injury prevention. Recent research clearly demonstrates that physical exercise planning should adopt a more holistic approach, rather than focusing solely on individual body parts. This approach ensures optimal joint function and, in turn, reduces the risk of injury.³⁹ One of the main health risks for older adults is the increasing likelihood of musculoskeletal injuries with age. Research by Dhahbi et al.⁴⁰ shows that implementing targeted injury prevention strategies

and optimizing physical training programs can significantly reduce the incidence of such injuries.

We found a general differentiation between physical activity goals and health satisfaction on the following scales: motivational values, time management, and motivational conflict. Women who scored higher on the above-mentioned scales were more satisfied with their health compared to those who were dissatisfied - like respondents who reported high levels of exercise intensity. A study by Spanish researchers conducted among 478 women aged 55-100 years showed that elderly women who engage in physical activity experience more positive aging and are, as a result, more satisfied with their health status. The authors confirmed that aspects of health and life satisfaction are directly related to successful aging, while social factors influence this process indirectly.⁴¹ Differences between the residence of the compared groups in terms of culture, disposition, lifestyle, habits, and mentality play a meaningful role. The broader age range in the Spanish study compared to ours is also an important factor. Data from the Singapore Life Panel 2018-2019,⁴² which surveyed respondents about their current participation in recreational physical activity over a seven-month period, further support the findings of our study. The sample consisted of 7,684 subjects over the age of 50 years, and logistic regression models were applied in the analysis. Regular participation in recreational physical activity was shown to be important for health and well-being among middle-aged and older adults in the context of population aging.⁴² The aim of the study by Parra-Rizo M.A. et al.⁴³ was to assess the functional abilities and autonomy, social relationships, and subjective health status among physically active elderly women in relation to their level of activity. The study sample consisted of 257 female subjects aged 61 to 93 years. The results showed that those with high levels of physical activity had better levels of functional abilities and autonomy, as well as greater satisfaction with their health. Conversely, dissatisfaction with health was associated with low levels of physical activity. Comparing self-assessed health among physically active and inactive women over 60 years of age could provide further insights into the impact of physical activity on the health of older women.

Practical Applications

The results obtained reveal the importance of motivational functions of physical activity goals in elderly women. The confirmed positive relationship between physical activity and better self-assessed health requires further awareness of the benefits of exercise and the role of motivation – both intrinsic and extrinsic – in encouraging participation in various forms of movement at different intensity levels. With the increasing number of older people, multifaceted activation, including physical activation and health improvement, must be tackled by society. Creating conditions for practicing various forms of physical exercise in community sports and recreational clubs, for people of all ages, on a non-profit basis, could contribute to increasing physical activity among older women.

From a practical point of view, identifying physical activity goals should be a priority in a modern strategy for promoting a healthy lifestyle of modern societies. Helping individuals and groups to identify physical activity goals (i.e., purposeful engagement) and to become aware of their positive relationship with physical activity could have a positive impact on perseverance in action and lifelong physical activity. Based on the understanding of goal-oriented behavior, professionals working with older people (instructors, trainers, coaches, etc.) could support and shape

additional motivations and set goals that can be achieved by the elderly.

Conclusions

Women characterized by low intensity physical activity spent more time exercising (e.g., walking, cycling, light gardening work) compared to those practicing high-intensity exercises. The main goal of physical activity among elderly women was health, defined among other indicators, by normal blood pressure, cholesterol levels, and body weight. The IPAQ allows us to determine not only the goals for exercising, but also the impact of the chosen goal on the individual's commitment to achieving it. This commitment is reflected in the motivational functions of physical activity goals (MV, TM, PA, MC). Respondents who scored higher on the scales of motivational values, time management, and motivational conflict were more satisfied with their health. Physically active older women were characterized by similar results on the scale of perseverance in action. Higher results on the motivational values scale had a stronger influence on undertaking physical activity among older women. A higher level of physical activity among elderly women was also associated with better time management. Individuals who also perceived other goals (motivational conflict) undertook physical effort higher than light.

Future studies should consider the following limitations. In research on physical activity motivation among older women, purposeful sampling was necessary, limited to individuals who met the criteria for this activity. To fully explore the relationship between self-rated health and physical activity, it would be necessary to include both physically active and inactive older women. Moreover, this study was based on data reported by the subjects themselves, who may not have remembered all the physical activity undertaken in the past year. The use of modern physical activity measurement technologies, in combination with standardized questionnaires, would enable a more precise determination of the level of physical activity intensity in the context of health (physical, mental, psychological, and social). Furthermore, the study was conducted in a specific region of Poland, which may not fully reflect the type of activity undertaken in other regions of the country; besides, the study does not sufficiently analyze external motivational factors (e.g., family support, the influence of the social environment). Future research should include older women from randomly selected and more diverse regions of Poland.

The IPAQ assessment tool applied in the study can serve both scientific and practical purposes in diagnosing physical activity motivations among older people. Thanks to knowledge about the purposefulness of action, it is possible to support and shape additional motivations experienced by an individual through setting new, realistic goals. Providing those involved in the development of health programs with practical recommendations could contribute to promoting sustainable activity. It would be advisable to conduct longitudinal studies to track changes in physical activity motivation among both adults as well as the elderly.

Acknowledgments

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Ethical Committee approval

Bioethics Commission at the Nicolas Copernicus University in Toruń, Collegium Medicum in Bydgoszcz (Poland) gave consent for the research (KB 577/2017).

ORCID

Michalina Kuska ID <https://orcid.org/0000-0003-3534-2142>

Marcin Pasek ID <https://orcid.org/0000-0001-6872-1697>

Leonard Nowak ID <https://orcid.org/0000-0001-8435-2668>

Maria Alicja Nowak ID <https://orcid.org/0000-0003-4682-7356>

Mirosława Szark-Eckardt ID <https://orcid.org/0000-0003-0668-0951>

Topic

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The authors have no conflicts of interest to declare.

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Author-s contribution

Conceptualization, M.K. and M.A.N.; methodology, M.K. and M.A.N.; software, L.N.; validation, M.A.N. and M.K.; formal analysis, M.P. and M.S-E.; investigation, L.N.; resources, M.P., and L.N.; data curation, M.A.N. and M.K.; writing—original draft preparation, M.K. and M.A.N.; writing—review and editing, M.P. and M.S-E.; visualization, M.A.N.; supervision, M.K. and M.A.N.; project administration, M.K. All authors have read and agreed to the published version of the manuscript.

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Corresponding information:

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Correspondence to: Dr. Michalina Kuska

University: Department of Health Sciences and Physical Culture, Kazimierz Wielki University in

Bydgoszcz, Sportowa St. 2,

85-091 Bydgoszcz, Poland

E-mail: michalinakuska@ukw.edu.pl